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JOHN H. ROBINSON, EDITOR AND MANAGER

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FIT TO WIN

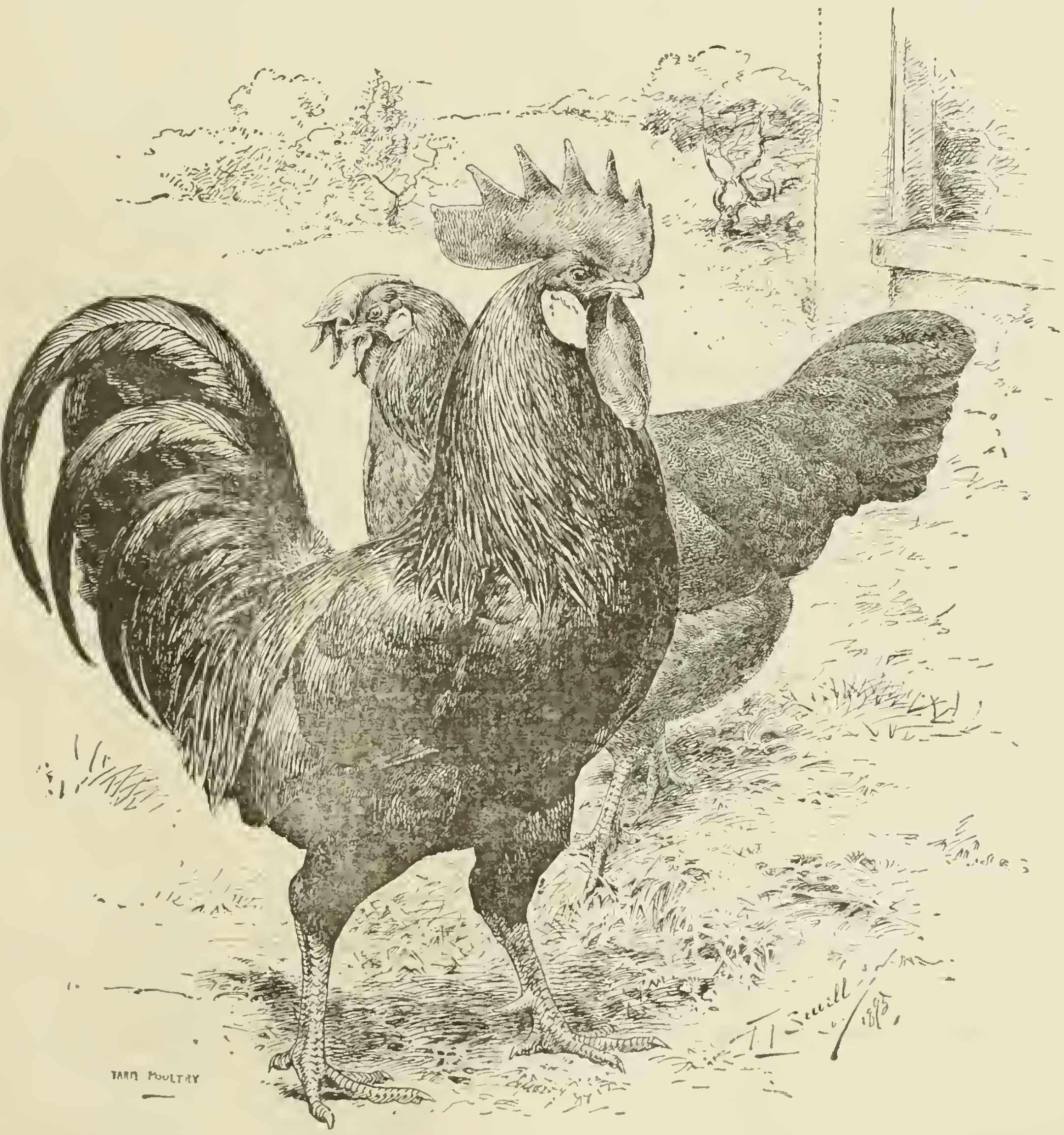
Condition of Exhibition Birds.— What It Is, and How Attained*

THE importance of perfect condition is recognized by the novice as well as the veteran handler of exhibition stock. The youngest tyro seldom needs more than a single lesson to learn that "in condition" has placed many a "blue." The effect upon a judge when looking at a specimen trim in outline and full of life and vigor is vastly different from that when looking at one that is loose feathered and has no definite outline. These things give to the judge his first impression, and, in judging poultry, as in many other things, first impressions are often the strongest.

The "Standard of Perfection" asks for this, that, and the other in each and every section. Judgment by it is an analysis. It should be a care. ful examination of each and every section as to form and feather. What can the general appearance have to do with a judgment that is based upon a minute analysis of the bird section by section is a question which the reader may of good right ask. The general appearance, or general effect, that a bird creates may be said to be synonymous with the beauty of that bird. When we speak of a handsome bird it is the one look, the general view that gives us that favorable impression. There is nothing wrong in the idea that a judge should allow the general impression, or general beauty, of a bird to affect the award. That idea requires no reconciliation with judgment by the Standard, which is the judgment by analysis; for this same Standard is founded upon lines and marks of beauty carried to details which make it more consistent. Many fanciers have become so thoroughly absorbed by details, and have applied the Standard with so much overcare that in time they have come to really believe that the Standard and beauty are antagonistic, when, in reality, its original object was to create beautiful fowls, and to make that beauty uniform in each variety.

Having thus briefly explained that general beauty of the bird is fundamental, and that the judge not only may but should consider it, the writer now wishes to pass to several thoughts of, and some experience with the condition of exhibition fowls.

The best of condition implies several things: First, perfect health; second, a ripe age; third, proper domestication. Taking these subjects up in reverse order, the latter simply means sufficient cooping and training to give the bird sufficient repose and confidence to assume natural poses in the condition in which he is placed. It is a simple and well known fact that a bird afraid of his surroundings does not show as well as one which is not afraid to stand in the center of the coop and show what life is his.



Sewell's Ideal of Brown Leghorns When the Brown Leghorn Was at the Height of its Popularity

By a ripe age, the writer refers to that time in the life of a fowl when the feathers have acquired their length and fullness and yet have not begun to lose their brightest and purest colors. It is then that the bird appears the smoothest and handsomest. Other attributes of a ripe age are form and carriage. The fullness of feather has much to do with certain lines of the bird. The arch of the neck, the curves of the back, and the shape of the tail are attributes of the bird that depend largely upon the stage of the feathering process. Shape of breast, weight, and station depend upon the growth of the body. The birds must be mature in growth as well as in feathering if you seek perfect condition for your exhibition specimens.

That a bird should be in perfect health in order to enter an exhibition, goes without saying. The fact that anyone intending to exhibit would entertain thoughts of showing a sick bird can scarcely be credited, and the cases where such a thing has been done have been comparatively rare. When such a risk is taken it frequently results in the loss of the bird. This was hardly the thought of the writer, however, in naming perfect health as one of the requisites of successful competition. Perfect physical condition would, prehaps, have been a better term, but the other was used, as it seemed a little broader. By perfect health, or perfect physical condition, is meant that state of all the organs of the body which insures the bird being at his best, exactly the same state that in an athlete we speak of as being "fit."

The advantages of a condition which might be termed perfect are manifold. The bird has life, vigor, and style — qualities which all lovers of animals admire. Besides these a bird in perfect condition will be close feathered and possess a smooth and glossy coat. A bird in such condition is sure to attract attention, notwithstanding many faults, and will often get the award over many which are considerably better, but in poor condition.

I might speak of some mistaken ideas and notions to which a certain few tenaciously cling, and of one or two mistakes which are often made. There are some breeders engaged in conducting both practical and fancy poultry plants—a happy combination and one the branches of which should antagonize each other but little, who make a serious mistake. Admirably as thoroughbred and even fancy stock adapts itself to the uses of the practical poultry farmer, it must not be expected that hens which have been subjected to a siege of months of laying can be found in first class condition for the show room. Neither can a male which has run in the breeding yards for weeks and months be expected to compete upon equal terms with those which have been trained and timed for any particular exhibition. This is elementary instruction, and to many would seem unnecessary, but the writer knows where it is needed. He has been called upon to select exhibition specimens from flocks which were just laid out, to say nothing of being played out for exhibition purposes. The birds in these flocks were found so loose feathered, so poor of flesh, and so pale in head parts that it was useless to exhibit them, though they were naturally worthy of such honors.

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*Reprinted from FARM-POULTRY, November 1st, 1899.

It is the general impression among the younger and smaller breeders that an exhibition bird must be conditioned for two or three weeks previous to showing, and that this short process is what really constitutes conditioning birds for exhibition. Nothing is further from the truth. It is true that such processes do aid the appearance of the birds in certain conditions, but the bird which does not require such treatment is the one that shows best.

The very best condition a bird can possibly reach is secured by supplying model surroundings and correct care from the day the chick is hatched. We might even say that the condition of the bird is affected even before the egg is laid or formed; but such a conception in detail would surpass our comprehension — somewhat. A chick kept growing from the very beginning of its existence until it reaches the age when it is fit for the show room will ask no odds on condition from any of its rivals. A bird which has had the proper care and range may be picked from the fields in which it has roamed at will and placed in the show room without fear of its condition. How often have we heard the remark when some exhibitor was complimented upon the appearance of his birds, "I've done nothing to them. They are here just as they run out of doors." A close examination in such cases usually confirms the opinion first expressed. There is no way to improve upon the condition of such a bird when picked at the right degree of maturity and in perfect health. It is the natural process and the best one.

As it is impossible in this climate to allow birds to run in the fields during those months when shows are mostly held, we must imitate those conditions and supply what nature furnishes when they are at range in some model pasture. While many poultrymen supply some of these things there are few who realize the importance of fresh air and exercise. These are prime essentials to good health, and they are about all that is required to make a good coat, except wholesome food. To neglect giving the birds plenty of exercise, or even forcing them to exercise if necessary, is to abandon our greatest help in conditioning fowls. Fresh air is a subject that has been discussed but little, if at all, by the poultry press in connection with the condition of exhibition fowls. The necessity of a good supply of this abundant and inexpensive article is most emphatically urged upon all poultry keepers. It will affect the coat both as to hardness of feather and lustre. The reader has but to experiment for a few days with a well ventilated hen house and a poorly ventilated one to see the effect upon the fowls. Keep the windows closed or nearly closed both day and night, and watch your birds as to hardness of feather, lustre and color of head parts, and then try a little judicious ventilation and note the difference in the tone and appearance of your birds. Such an experiment may be confined to your own house instead of being carried to the poultry house. Close your sleeping room up tight all night and your own feelings in the morning will demonstrate the necessity of a supply of pure air for the fowls at all times.

Green food is another essential which birds crave, and it should be supplied in good quantity. This leads us to the subject of feeding fowls that are being prepared for exhibition. All foods should be sweet and wholesome. Fowls are not swine, and will not thrive upon the care usually accorded that much abused race of animals. Good judgment must be used as to the amount of food. Too much food means too much flesh and fowls too lazy to take the needed amount of exercise.

To get the required amount of exercise in confined quarters a litter of leaves, coarse hay, or rye straw should be placed upon the ground to the depth of four or five inches. A few oats should be scattered in this as soon as the birds are fairly off the roost in the morning, if it is during the short days of winter. Then as soon as the mash can be prepared the birds should receive about two heaping teaspoonfuls each. This small quantity warms them up and sets the machinery of their digestive organs to work, but is not enough to destroy their appetite for more. This mash should be made of ground oats and corn meal, or corn meal, flour middlings and bran, or acme feed. The proportions should be governed by the quality of the goods. A mash that is so light in substance that it does not cling together is not rich enough; neither is a tough, doughy mass what is desired. This mash should be seasoned lightly with salt, but no spices whatever should be used, as they tend to intensify the color of the head parts for a time only and to diminish it in proportion thereafter. It is also advisable to use a small quantity of bone meal in this mash every morning, and twice a week a little refined fish meal, say one-twelfth or so. This is a forcing food, and but little should be employed, unless it is desired to bring females toward a laying state. Clover meal should be used once or twice a week in this morning mash. It is preferable to cut clover, as the latter is too bulky in the crop and often clogs the passage to the digestive organs. The fowls should be kept scratching until noon, when the green food should be fed. Everyone has his preference; the writer prefers cabbages, as they are the greenest and tenderest thing to be procured in the winter months. Green food can be placed before them in two ways: It may be chopped and a certain amount fed every day, or it may be placed before the fowls in an unlimited supply. If it is furnished without restriction it must be kept constantly before the fowls, otherwise they are liable to eat too much when a new allowance is supplied. Between three and four o'clock the fowls should be given the heartiest meal of the day. It should consist of either wheat or barley, and should be well covered with litter. The exact time that it should be given depends upon the length of the day. The object is to give the fowls an hour or an hour and a half of exercise before they go to roost. Considerable can be accomplished by a selection of grains. If the birds are too fleshy, more barley and less wheat should be used for the evening feed. If the weather is very cold, and the birds in a normal state of flesh, a small handful of corn may be allowed each one just before it jumps upon the perch for the night. With fowls that are poor in flesh it is well to use more wheat and but little oats and barley for a scratching feed. Corn should be fed for the evening feed to birds in this condition.

Young birds of the heavier breeds which are somewhat under weight should not be forced to over-exercise; (in such cases, increase of weight is the main point); but a moderate amount of exercise will prove advantageous in these cases, also. A great variety of food should be sought for such birds. The mash should have a greater proportion of corn meal, and a mixture of wheat and barley with a small proportion of oats should be used during the day to make the birds exercise. Broken sweet crackers of all sorts may be used in connection with corn meal and bran as a soft food to good advantage. In cold weather sunflower seeds and buckwheat in small amounts are good agents in securing the desired object. The last two are also very instrumental in procuring that lustre so desired by the best exhibitors. Beef tallow is very good to give a lustre to the coat. Too much is not beneficial to the general health of the bird, but a piece one-half the size of an English walnut every second day will answer the purpose and prove a great treat to the birds.

The quarters for the birds during this preparation should be all that quarters for any fowls should be — dry, sunny, well ventilated, but free from drafts. It would be well to clean them a little oftener than usual. No chance should present itself for the birds to soil their plumage, as the natural has more life than the washed plumage. To that end the droppings should be removed a little oftener than usual, and no soft or green foods left where the plumage of the birds can come in contact with them.

It is hardly necessary to say that these birds must be kept absolutely free from lice, and in particular cases like these nothing in my opinion answers as well as a thorough dusting once a week with lice powder.

The males and females should for obvious reasons be conditioned in separate compartments, if not in separate houses. The males usually do better with one to three females, of course only those which are of no consequence for exhibition purposes. The females may be conditioned together to the number of six or eight, but when more than that number are placed in the same pen all do not seem to thrive.

Grooming is sometimes resorted to in order to give the bird a sleek appearance; one which has had plenty of fresh air and exercise seldom requires much, however. The best implements for such work are the hands or an old silk handkerchief. The feathers should be rubbed very lightly, as they show the effects of the least wear very quickly.

The mention of any tonics, washes, drugs, and what may be termed "brilliantines," has been carefully avoided, as the course here described will do all that those things will do, and all that is necessary in forty-nine cases out of fifty. Nothing is absolutely required except the every day stock of the cook room, and a quick eye for the condition of the birds and the houses to enable you to set up as finely conditioned a string of exhibition birds as any of your contemporaries.

A. C. Smith.

THE DISTRIBUTION OF EGG PRODUCTION *

(Continued from October Number)

PART III.

What is the Most Reliable Method of Determining the Relative Laying Capacity of Fowls?

THIS question has been variously answered by persons who have undertaken to breed poultry for egg production, and who have endeavored to mate fowls with reference to their fecundity factors.

It is apparent that to decide upon a standard for measuring the relative productivity of fowls is a problem which should be uppermost in the minds of breeders of poultry for egg production. This is of equal importance to the investigator who must first decide upon an accurate method of rating the individuals to be used in his mathematical formulas as it is to the practical breeder in making up his breeding flocks. It is axiomatic that the terms of an equation must be correct if we are to expect a true solution of the problem. If, for example, characters *H*, *N*, *L* and *A* are to represent high, normal, low, and absence of the fecundity factor respectively, one must be assured that the terms of the equation accurately fit the birds to be mated. The birds in the breeding flock, and their offspring, rather than mathematical symbols, are the real terms of the equation. They are the final proof of the accuracy of the formula which they are supposed to represent. The making of mathematical equations may be considerably easier than waiting for the slower process of breeding to secure the final results. It is also liable to be quite as hazardous when put to the ultimate test. Mating the birds and observing the productive powers of the offspring should always supplement any mathematical explanation or biometrical formula that may be used to explain theories of heredity. Moreover, breeding practice should both precede and follow the theories of inheritance as expressed by mathematical formulæ. That is to say, the making of an equation to explain a theory regarding laws of inheritance should be preceded by sufficient evidence to warrant belief in the accuracy of the theory and the correctness of the assumed "known" terms of the equation, and also should be followed by the actual matings that prove the soundness of the theory and the accuracy of the mathematical method. Hence it becomes of the utmost importance before going far with the development of breeding formulas to ascertain how fowls differ in their production, and then to try and decide upon a method of classifying and comparing individuals as to their performance. This is the logical first step to be taken in any system of breeding.

To compare some of the many standards by which the laying capacity of fowls possibly may be measured, and with the hope of offering some evidence that may indicate whether or not we are justified in assuming that hens may be classified according to their laying records into "high," "medium," or "low," or "absence of fecundity" character groups, these data are submitted. Purely for the sake of comparison, and without presuming to recommend any particular method before putting it to the breeding test, several standards of measurement may be considered in connection with data that follow.

In order to compare the productivity of the sixty-three fowls here discussed, they are rated in the order of highest to lowest production based upon the number of eggs laid within specified periods. The relative merits of eight different methods of comparing production are shown. By these studies it was hoped to secure some additional information regarding a satisfactory standard for measuring the egg producing capacity of fowls, based on performance.

How difficult the problem is of forecasting the laying capacities of fowls may be seen by studying the egg yields and following the lines connecting the records of the fowls in Table VII.

The Age at Which Pullets Lay Their First Egg

It appears to be true that generally animals show early in life those characters which dominate their nature. It would be natural to expect, therefore, that in the main, under normal conditions, pullets would show by the age at which they commence to lay, their inherited tendencies to egg production. That this is the case is indicated by the records of three years of 169 fowls, as shown in Table VIII.

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*By James E. Rice, '90, Professor of Poultry Husbandry, in colaboration with O. B. Kent, '12, Instructor in Poultry Husbandry, and F. D. Brooks, '17, New York State College of Agriculture at Cornell University. Reprinted from the Cornell Countryman.

The records of 167 of these are divided into groups according to the age when the pullets laid their first eggs. The fowls in each group are 30 days older than the preceding group. Those in the first group began to lay when they were from 151 to 180 days old, as shown in the first column. Other columns in Table VIII, from left to right, show the number of hens and the percentage of each group, of the total population, and in the succeeding columns is shown the average age in days when pullets laid their first egg, and the average egg production of each group for the first year, the second year, the third year, and the total for three years combined.

The correlation between early laying age and high egg production is striking and consistent. The first three groups consisted of 75% of the fowls that began to lay when they average about seven months old, and when the oldest in the group to lay was less than eight months old. The egg production for each of the three years, and for each of the three groups, was strikingly large in the younger-to-begin-to-lay groups. When the production of the first three groups representing practically three-quarters of the entire population is compared to the later-to-lay groups representing 42 fowls, or 25% that did not begin to lay until eight to ten months old, a striking contrast is observed. The difference in favor of the earlier-to-lay is for the first year, 150.60 against 95.55, a difference of 55 05; for the second year, 128 67 as against 111.81, a difference of 16.86 eggs; for the third year, 112.54 as against 99.00, a difference of 13.54; and for the three years combined, 391 81, as against 306.36, a difference of 85.45 in favor in each instance of the earlier-to-lay pullets.

A poultryman selecting his pullets, by means of trap nests or by external characters, that began to lay before they were eight months old, would not only have had a vastly higher flock average as indicated above, but he would have been able to discard, during the first year, about 25% of his flock as low producing and, therefore, presumably unprofitable egg producers. Rigid culling of the flock has now become imperative on account of the the abnormally high price of feed. It has also become quite essential in the light of our modern knowledge of breeding, if we are to breed from our highest producing individuals with a view to increasing the productivity of our flocks. By this rigid culling of pullets the danger of breeding from the low producing individuals in later years would be largely eliminated. Incidentally, the two fowls that did not lay until they were 476 and 1110 days old, respectively, would not have been boarded for two or more years just for the sake of their society.

In Table VII, the average production of fowls based on the age when first egg was laid is shown. The difference between the average production for three years of one-third of the flock that began to lay first as compared to the one-third of the flock that began to lay latest, is 128.4 eggs as against 102.87 eggs, or a difference of 25.57.

Egg Production to March 1st

If all the pullets had been hatched at the same time, and at the right time in the spring, so that a fixed date would have insured the pullets being compared on the same basis, the method would be quite reliable in picking out the less productive pullets. The fact that chickens usually are hatched at various times in the spring covering a period of from six to eight or ten weeks, makes the age of the pullets from two to ten weeks different at March 1st, so that the method does not compare individuals on an equal basis. Hence, the method is less satisfactory than one in which an age limit is used by which the pullets are not compared until they have reached the same age.

By referring to Table VII, one will be able to compare the value of the eight methods under consideration. In Table VII B, it will be seen that comparing the average production for three years group of one-third, the highest producers selected on a basis of production to March 1st, as compared to one-third of the lowest producers at that time, is 141.03 as against 79.78, a difference of 41.25.

Egg Production to Ten Month of Age

The fact that a definite age limit is fixed by which the proficiency of fowls may be compared, makes this a fairly safe and a quick method of eliminating the less desirable fowls from the flock, but is not sufficiently accurate in finding all of the medium and good layers to warrant one depending entirely upon it. The selection of pullets on account of their egg production to eight, nine, or ten months of age, depending upon the breeding season, and other modifying or controlling influences, is strongly to be recommended as one of the most important first steps in the development of a strain of high producing fowls.

Prof. James E. Rice, Head of the Department of Poultry Husbandry at Cornell.

Table VII will furnish more detailed information as to the reliability of this as compared to the other methods of selection. A comparison of the average production for three years of one-third of the flock that laid the most eggs at ten months of age, as compared to the one-third that laid the least eggs, shows a production of 142.97 as against 102.46, a difference of 40 51.

The First Calendar Year Record of Egg Production

One full calendar year usually enables a fowl to do justice to her ability as a layer provided she gets started sufficiently early to make a twelve months laying year before her production is interfered with or stopped by fall and winter climatic conditions. Much, of course, will depend upon when the calendar year starts and stops, and at how early an age a fowl commences to lay, as to whether her first year is to be a reasonably correct gauge of her laying ability. The fact that cold fall weather in New York State, and the molting tendency, affects all fowls adversely and tends to check their production, apparently is the cause for some of the less productive and later-to-commence-to-lay fowls to be somewhat handicapped the first year. If one will study the daily production of fowls of the same age that begin to lay earliest he will find that generally they are the fowls that also lay latest the following fall, and that unfavorable weather and the molting tendency eventually stops production of even the best ones in November or December.

The Record of Egg Production for Twelve Months After the First Egg is Laid

An examination showed that only in a very few instances did a fowl extend her laying year beyond the calendar year. (October 1st to November 1st, following). In such instances, a practical breeder would be justified in giving such hens the benefit of the few extra eggs that they laid in the "laying year" as compared to the "calendar year." The same would be true if we extend the laying year forward in the case of the individuals that may have begun their laying before the calendar year — October 1st or November 1st — begun. In the main, however, it would be wise to give every hen a twelve months period of laying from the date which she laid her first egg. In many instances such a course

TABLE VII.

EIGHT METHODS OF COMPARING THE LAYING CAPACITY FOR THREE YEARS OF SIXTY-THREE SINGLE COMB WHITE LEGHORN HENS AT CORNELL UNIVERSITY

Group	No. Hens	Av. age at first egg	Av. prod. March 1	Av. prod. 10 months	Av. prod. 1st year	Av. prod. 2d year	Av. prod. 1st and 2d year	Av. prod. 3d year	Av. prod. 1-2 3 years
A. Based on Age When First Egg Was Laid									
Highest 33⅓%	21	188.52	33.71	41.81	151.14	122.43	136.79	111.76	128.44
Medium 33⅓%	21	209.19	27:62	37 76	148.67	136 29	142.48	127.81	137.59
Lowest 33⅓%	21	260.81	11.00	17.14	102.76	109.14	105.95	96.71	102.87 25.57*
B. Based on Production to March 1st									
Highest 33⅓%	21	197.71	42.14	49.76	169.67	134.57	152.12	118.86	141.03
Medium 33⅓%	21	208.62	22.38	31.95	137.67	124.76	131.22	121.86	128.10
Lowest 33⅓%	21	252.19	7.81	15.00	95.24	108.52	101.88	95.57	99.78 41.25*
C. Based on Production for First Ten Months									
Highest 33⅓%	21	195.52	41.62	51.33	170.67	135.52	153.10	122.71	142.97
Medium 33⅓%	21	213.29	21.19	31.19	132.86	123.76	128.31	113 81	123.48
Lowest 33⅓%	21	249.71	9.52	14.19	99.05	108.57	103 81	99 76	102 46 40.51*
D. Based on "First Year" Production									
Highest 33⅓%	21	206.52	35.95	44.38	176.52	139.10	157.81	124 62	146.75
Medium 33⅓%	21	204.81	26.52	35.10	137.10	129.43	133.27	122 14	129.56
Lowest 33⅓%	21	247.19	9.86	17.24	88.95	99.33	94.14	89.52	92.60 54.15*
E. Based on "Second Year" Production									
Highest 33⅓%	21	212.95	30.00	38.81	162.05	151.57	156.81	130.71	148.11
Medium 33⅓%	21	220 38	24 52	32.67	138 76	125 52	132.14	118.29	127.52
Lowest 33⅓%	21	225.19	17.81	25.24	101.76	90.76	96.26	87.29	93.27 54 84*
F. Based on Combined 1st and 2d Years Production									
Highest 33⅓%	21	206.10	34.90	44.43	172.95	148.52	160.74	131.52	151.00
Medium 33⅓%	21	211.48	26 29	34.19	139.90	125.00	132.45	118.10	127.67
Lowest 33⅓%	21	240.95	11.14	18.10	89.71	94.33	92.02	86.67	90.24 60.76*
G. Based on "Third Year" Production									
Highest 33⅓%	21	214 05	27 24	36.67	158.95	146.24	152 60	142.00	149.06
Medium 33⅓%	21	210.14	28.81	36 62	141.43	125.52	133.48	115.33	127.43
Lowest 33⅓%	21	234.33	16 29	23 43	102.19	96.10	99.15	78.95	92 41 36.65*
H. Based on Total "Three Years" Production									
Highest 33⅓%	21	209 48	32.29	40.95	169.57	150.33	159.95	137.81	152.57
Medium 33⅓%	21	207.95	26.67	35.14	139.90	124.14	132.02	115.05	126.36
Lowest 33⅓%	21	241.10	13.80	20.62	93.10	93.38	93.24	83.43	89.97 62.60*

*Difference between highest and lowest groups based on average production for first three years.

TABLE VIII.

Early Egg Production as an Indication of Prolificacy. Three Calendar Year Record of 169 S. C. White Leghorns at Cornell University

Grouped according to age first egg was laid	No. of hens	Per cent of total hens	Average age when first egg was laid	Average product 1st year	Average product 2d year	Average product 3d year	Total Average product for first 3 years
151–180	4	2.37	176.25	**173.25**	135.75	126.50	435.50
181–210	71	42.01	199 77	**157.01**	133.63	116.41	407.05
211–240	52	30 77	222.46	**140.10**	121.37	106.19	367.66
151–240	127	75.15	208.32	**150.60**	128.67	112 54	391.81
241–270	22	13.02	255.50	108.10	**121.05**	108.50	337.65
271–300	11	6.51	285.09	**93.91**	93.56	84.27	271.74
301–330	6	3.55	315.50	88.33	**129.00**	107.67	325.00
331–360	1	.59	359.00	45.00	**75.00**	69.00	189.00
476	1	.59	476.00	27.00	**155.00**	126.00	308.00
1110	1	.59	1110.00	0.00	0.00	3.00	3.00
241–1110	42	24 85	299 88	95.55	111 81	99.00	306 36
Total	169	100.00	231.08	136 92	124.48	109.18	370 57

would extend the twelve months laying record to include one-half or more of the second calendar year record which would, in effect, be an unfair advantage or disadvantage to the hens, depending upon when she began and ended her laying year record. For example, hens commencing to lay as late as February, March, or April, as many do, would have their twelve months laying year and extend to the same date the following calendar year from the date when the first egg was laid. This would make as many different laying year records to consider as there are fowls to commence to lay on different dates and would result in confusion in undertaking to compare individual records and would not be likely to give as accurate a means of estimating a hen's laying capacity as it would be to use the calendar year commencing with the season when pullets normally commence to lay in the fall and ending at approximately the same time when hens cease to lay at the close of their laying year. This would be done with the understanding that the individuals, whose record of laying is so extended that a twelve months calendar year would modify slightly her full laying year. It must be seen, therefore, that the possible injustice of a calendar year record of laying would be likely to affect only the higher producing fowls which should be given full advantage of a twelve months laying year from the day the first egg was laid.

The Second Calendar Year Production

Many high producing hens, notwithstanding the general law that the best hens usually make their highest records earlier in life, may be a little slow in starting to lay, or do not stress their production as heavily during the year, and consequently make their best records the second year. Some of the high record hens of the first year, either because they lack the vitality or inherit a short distance laying habit, fail to maintain their early performance and make medium or low records the second year. A better estimate of these two types of hens is obtained if we use their two year, or longer, records. The second year record frequently brings to light some very high producing fowls that otherwise might be overlooked.

First and Second Calendar Year Egg Production

The yearly production record for three years shows that in most instances the hens that lay above the average production for three years have made their highest yearly production in either the first or second year. When hens have made their highest yields after the second year, the relative production in nearly all instances has been low to medium. Hence the average production for two years appears to be more reliable than either the first or second year alone. The two year record appears to smooth out any extremes or exceptions in either year and gives a reasonably safe guide for estimating a hen's laying capabilities. A combination of especially practical value to the commercial breeding requirements is to use the total production for the first eighteen months after the first egg is laid, or the first eighteen calendar year months from October 1st to April 1st which includes the entire year and approximately six months fall and winter production of the second season. This enables the breeder to select and use his best producing individuals when they are two years old without waiting until they are three years old in order to get two complete laying year records.

Table VII.-F shows how valuable the combined first and second year method is in estimating productive value of individuals. The difference between the average production for three years of the upper and lower one-third based on two years production is 151.00 against 90.24, or a difference of 60.76.

The Third Calendar Year Egg Production

If the purpose in selection according to egg production is to discover the fowls that make the highest average sustained yield with the object in view of emphasizing longevity and the breeding of long distance records, the third year is valuable. Many of the best first year producers decline in the second year and come up in the third year with a larger egg yield than they made in the second year. It is of the utmost importance that these individuals be discovered. They show by their sustained high yield in the third year that they possess the inherited tendency of high fecundity and also that they have strong vitality to withstand the heavy strain of high egg production. The third year highest record alone, however, apparently, does not indicate the highest long distance producers quite as accurately as the first two years combined or the three years combined. The contrast between the highest one-third and the lowest one-third based on first and second year production as compared to the average based on third year production is as follows: 150.00 as against 90.24, or 60.76; 149.06 as against 92.41, or 56.65.

The Three Years Egg Production Combined

The massing together of three years production gives what would appear from these dates a more reliable method of selecting fowls, determining their egg laying capacity than any shorter time method. A careful study of the ratings of the sixty-three hens demonstrates the fact that the most consistently high, medium, or low producing birds are found by tracing back the records for the average of three years combined.

Meaauring and defining relative egg production is much like measuring and defining distances. We measure production by eggs and distance by feet. We may say, if we choose to use the terms for the sake of illustration, that a fowl is a low, medium, or high, or very high, or exceptionally high producer, or we may use any other appropriate adjectives in our attempt to distinguish between the productive value of individuals, the same as we may say that a building is low, medium, or high, or very high, or exceptionally high, etc. One method of description is about as definite as the other. Extreme limits of egg production and of height of buildings are increasing each year as man obtains better mastery of the science and the art of poultry husbandry and architecture and engineering. What constitutes a high egg yield or a high building will depend upon the particular standard of measurement that we have in mind. The meaning that we convey in our descriptive terms will depend upon whether we have in view exceptional individuals that have been carefully selected and cared for or the average of a large or small flock or farm flock, or whether we refer to the first or the second or the third or the fourth or any combination of years' production, or whether we have in mind only individual rather than flock production, or, to make our comparison clear, in the case of buildings we might have a sky scraper in a metropolis or the highest buildings in a small city, country town, or on a farm. The laying records of three different groups of Leghorn fowls, representing 270 individuals (Flocks 169, 63, and 38) for three years, might perhaps justify our assuming to suggest the number of eggs that should be laid per hen per year to fit suggested descriptive terms. Instead of assuming the responsibility for presuming to decide upon so variable a factor as egg production and take the chances of not having it fit the opinions and meet the approval of any considerable number of poultryman, the result of a survey of the opinions of persons is submitted. The descriptive terms as here quoted were submitted to persons with the request that they name the number of eggs that a commercial flock of Leghorn pullets, kept under approved modern methods for commercial egg production, should lay. It was urged that each person try and express in his figures the number of eggs which the terms indicated to him a flock of fowls should be expected to lay. The replies were given without any of the persons having an opportunity to confer with one another or with others or to consult records of production. The test was made with the idea of ascertaining how closely persons' opinions agree as to the meaning of certain terms when applied to egg production under the conditions named. It does not follow from this that a careful mathematical study of the production of large numbers of fowls would necessarily give results that would coincide with the yields quoted in connection with the descriptive terms.

If one were to consider the production of individuals instead of flock averages, it would be necessary to increase the number of eggs to fit the same terms used in the accompanying tabulation. So, too, it would be necessary to reduce the estimated number of eggs to fit the terms if one were considering the second year production instead of the first, or the third instead of the second, and so on, and a different set of estimates would be required to fit the terms if we were dealing with breeds of poultry having recognized higher or lower productive capacity than the Leghorns.

The Intensity of Egg Production for a Short Period of Time

The opinion has been advanced that the intensity of production; that is, the shorter the time in which fowls lay a given number of eggs, or the more eggs they lay within a given short period of time, is the best method of determining their laying capacity.

By arranging the leg band numbers of the sixty-three hens under consideration in the order from highest to lowest in egg yield, as shown by each of the eight methods of measuring their performance which has been suggested, one may follow the records of each fowl through the table by drawing a line to connect the leg band number of each hen wherever it is found in the rating column.

These tabulations show, in the case of the sixty-three fowls under consideration, that the records for the first two years and for three years combined, appear to be the most reliable of the eight methods studied as indicating the productivity of Leghorns.

These and other data would indicate the wisdom of establishing at least four facts before assuming to compare the production of fowls. These four facts are: First, the date the individual was hatched; second, the age when she laid her first egg; third, the number of eggs laid within a fixed time; and fourth, the environmental conditions surrounding the flock. The data would appear to show that if these four facts are ascer-

The Intensity of Egg Production as an Indication of Prolificacy

Fifteen Single Comb White Leghorns at Cornell University Selected from Sixty-Three Whose Records Are Known for Three Years or More

Leg Band No.	1st year No. days continuous laying	No. eggs laid	2d year No. days continuous laying	No. eggs laid	3d year No. days continuous laying	No. eggs laid	Total eggs laid in three years
5697	15	243	5	162	6	146	551
7518	5	221	8	163	4	109	493
7880	5	151	28	145	12	159	459
5675	3	148	5	136	6	155	439
7700	3	152	5	135	6	141	428
5708	5	151	12	142	12	133	426
7675	6	140	7	149	9	131	420
5633	4	159	4	114	3	133	406
7897	5	137	11	424	6	139	400
7455	8	138	9	107	13	105	350
7469	8	118	11	104	6	124	346
7668	6	106	21	101	12	114	321
7860	7	106	7	72	6	58	236
7504	6	83	8	86	6	57	226
7658	2	45	6	53	2	65	163

A Symposium of Guesses as to a Good Average Flock Egg Production per Hen per Year to Fit Descriptive Terms Indicating Various Grades of Production

	1	2	3	4	5	6	7	8	9	10	11	12	13	Total	Av.
Phenomenally low,	50	25	25	25	20	30	20	20	40	25	70	20	50	420	32.3
Exceptionally low,	60	50	60	40	40	40	30	40	60	40	75	30	60	625	48.
Very low,	70	75	80	50	60	50	40	60	75	60	80	40	75	815	62.7
Low,	100	100	100	95	80	70	50	80	90	80	90	60	100	1095	84.2
Fair,	125	115	125	115	100	85	60	95	110	105	100	100	115	1350	103.8
Medium,	150	125	150	125	120	100	75	110	125	125	110	115	125	1555	119.6
Good,	175	135	165	135	140	130	100	125	140	130	125	150	140	1790	137.7
High,	200	150	180	150	160	160	125	145	160	140	140	180	150	2040	156.9
Very high,	230	175	200	160	180	180	160	165	180	160	150	200	160	2300	176.9
Exceptionally high,	250	200	225	180	200	190	200	180	200	170	155	215	175	2540	195.4
Phenomenally high,	275	225	240	200	220	200	225	200	225	180	160	230	200	2780	213.8
Totals,	1685	1375	1550	1275	1320	1235	1085	1220	1405	1215	1255	1340	1350	17310	

tained one may secure a more reliable index of a hen's productive power than he would be likely to secure if he should use as his standard of measurement any fixed date during which the egg production of a flock might be compared without taking into consideration the date of hatching and the date the first egg was laid.

It would appear also from the data that the longer the period of laying one takes in comparing fowls the more reliable will be the method of determining a hen's laying capacity. However, the value of the laying capacity of fowls as shown by any of the known methods of rating as an index of her breeding value can only be proven by a breeding test. The best we can do with our present method of determining the productive capacity of birds is to assume that the high laying capacity is the result of inheritance of high fecundity factors, coupled with the inheritance of strong constitutional vigor, and that both of these factors may be influenced by environmental conditions that surround the breeding flock or their parents.

A summary of eight methods of comparing the laying capacity of hens for three years shows that the following factors are to be considered:

1st. The age at which pullets lay their first egg.
2d. The production of pullets to March 1st.
3d. The production of pullets to ten months of age.
4th. The first calendar year egg production.
5th. The egg production for twelve months after the first egg is laid.
6th. The second calendar year egg production.
7th. The first and second calendar year egg production, or the average per year for two years.
8th. The third calendar year egg production.
9th. The three years egg production combined, or the average per year for three years, etc., for succeeding years.
10th. The intensity of egg production for a short period of one or more weeks at any time of the year.

ARTIFICIAL REARING OF POULTRY

By the Late James Rankin

(Continued from October Issue)

Poultry Buildings.

I am often asked to give a plan for practical poultry buildings. This is a very difficult thing to do, because some people want their buildings very ornamental, while others, whose purses are lighter, want structures that are barely practicable. Some have plenty of room, and can colonize their fowls out, in small or portable buildings, and give them plenty of range; this, all things considered, is the best method.

Others still are limited for room and would like to know how many fowls they can keep to advantage on a given area. Now these different situations require differently constructed buildings.

Then, again, the labor question, as connected with the poultry business, is one of the gravest import. It is now difficult to get faithful, intelligent help. The old impression that boys and girls and invalids are adapted to the care of poultry is fast wearing away. The poultry business means long days, early work and late; and there is not only a large amount of drudgery connected with it, but it is a work of detail, as well as requiring constant vigilance and activity.

Hence, in all poultry establishments, got up with a view to profit, the buildings should be constructed with a view to simplifying the labor question, and every facility allowed for cleaning and purifying. The sanitary department comes first on the list, for where poultry are reared on a large scale the predisposition to vermin and disease is in exact ratio to the number kept; especially is this the case where the fowl are confined.

Ventilation should always be from below, as this carries away the cold air and foul gases. instead of the warm, pure air of the upper stratum. A person has only to pass through a building occupied by fowls and ventilated in either of the above ways to satisfy himself of the utility of the bottom ventilation.

Where one is limited in space, and large buildings are necessary, undoubtedly a double-roof building twenty-four feet wide, with a four foot walk in the centre, is the most convenient and best. This building need not be more than four feet high at the sides, and can be of any required length. There should be a pump connected with this aisle, and the fowls should all be fed and watered from it. This reduces the labor and care to a minimum.

By this arrangement an hour each morning and evening would be all the time required to feed and water one thousand fowls. Of course, a building of this description one hundred feet long would be ample accommodations for five hundred fowl. Such a building need not cost over $275, but can be made to cost twice that sum. The fowl should have access to small dust-rooms, and the nests should be arranged so that the eggs can be gathered from the walk. The whole thing should be got up with a view to simplify the labor and sanitary departments, as constant cleanliness is absolutely necessary to success.

I will give my balance sheet for 1882 and 1883 on chicks:—

Stock On Hand Sept. 1, 1882.

314 pullets, at $1.25 each,	$392.50
Supplies and food of all kinds,	754.31
95 gallons oil,	7.60
	$1,154.41

Stock On Hand Sept. 1, 1883.

634 pullets and chicks,	$536.50
1,616 dozen eggs sold,	533.28
302 hens sold,	314.75
1,434 chicks sold,	1,400.01
	$2,784.54
Net profit,	1,630.13

This showing gives a clear profit per hen of $5.20.

I would here say that the care of this poultry devolved entirely on myself. While my men were milking and feeding stock in the barn, I cared for chicks and machines, and seven o'clock found me at work in the field; and, with the exception of a half hour in the middle of each forenoon and afternoon, devoted to feeding chicks, I did my share of field work with the others.

I will give an account of my little duck venture for 1885:—

Stock On Hand Jan. 1, 1885.

42 ducks and drakes, at $1.50 each,	$63.00
Feed of all kinds consumed,	334.52
68 gallons oil, at 8½c. per gal.,	5.78
	$403.30

Stock On Hand Dec. 1, 1885.

206 ducks and drakes, at $1.50 each,	$309.00
Ducks sold,	1,503.71
72 dozen eggs sold,	61.00
121 lbs. feathers sold, at 50c.,	60.50
	$1,934 21
Net profit,	1,530.91

Or a profit of nearly $44 to each duck. This profit might have been increased had I hatched rather than sold the eggs above mentioned. I think that every one here will concede that the above showing by the "old hen process" would have been next to impossible.

I am not here alone to show that the poultry business offers to the New England farmer a branch of industry far more profitable than any other in which he can engage, but to prove to you conclusively the immense superiority of the artificial over the natural way of doing it. The absolute certainty with which one can calculate upon good results, the great saving of eggs in the much better percentage of hatch obtained through machinery, the great economy of labor of the artificial over the natural method where one man can easily do the work of three; these points, together with the total immunity from the perplexity and care attendant upon the use of refractory hens, make the superiority of the artificial over the natural evident to all.

Many of you doubtless recollect, when visiting the "Mechanics' Fair" in Boston a year or two ago, that a space in one side of that huge building was devoted to the manufacture of boots and shoes, and how that whole sides of leather were introduced in one side of that building, and in fifteen minutes came out polished boots and shoes at the other. You recollect also that on a platform above that wonderful machinery (and representing the old-time method) sat a superannuated old octogenarian, his visage solemn as an owl, his mouth full of pegs, pegging away for dear life; and how the throngs of visitors that gathered around were convulsed with laughter at the ludicrous contrast. There is just as much difference today between the natural and artificial methods of growing poultry as there is between handwork and machinery in the manufacture of our boots and shoes.

There has been a great revolution in New England farming within the past thirty years. Our sterile soil cannot compete favorably with the West and its interminable area of inexhaustible fertility, or with the sunny South and its semi-tropical clime, which gluts our markets with our own fruits ere our blossoms open. The same crops that sufficed for the frugal wants of the farmer's family thirty years ago are wholly inadequate to meet the increased expenses and more luxurious tastes of today. As a natural consequence the young men, discouraged by the outlook, are going West, filling our shops and factories, or vainly seeking salaried positions in our cities, leaving the old gentleman, by dint of muscle and machinery, to get along as best he can, and when, according to the natural course of things, the gray-haired sire pays the debt of nature, the farm is placed upon the market for less than the actual cost of the buildings. There are thousands of New England farms today on the market for less than the actual value of the buildings. Our daughters and our wives (the hard-working mothers of our children), though on the farm, have the same refined tastes, the same love of the beautiful and the good, the same desires that their city sisters have, but too often without the opportunity to gratify them, and there is not a shadow of a reason why they should not be gratified. There are hundreds of farmers in New England today who are burdened with toil and debt. They are still traveling in the old ruts and cannot be induced to clamber out. They will persist in raising the old complement of potatoes and corn, of growing the same amount of beef and pork, of making the usual quantity of second or third quality butter, and in keeping the same number of half-starved, nude old hens and then wonder why they don't lay. They will not see that a pound of chicken or duck (which can be grown in three months at a far less cost than a pound of either beef or pork, and which, when put upon the market, will bring four times as much) is the best crop for them to raise. There is absolutely nothing within the possibilities of farm industry that is capable of making so rich returns as poultry growing when artificially conducted. Every New England farm should have its poultry department, the same as its dairy or vegetable department. It is far easier now to fence against poultry than against cattle, sheep or swine, while the returns are four times as great as in either, with far less capital and labor involved. A well conducted poultry yard gives a most promising outlook to the young men, with encouragement to stand by their gray-haired sire on the farm. It gives profitable and healthful employment to the daughter, with the means of gratifying her innocent tastes, of acquiring those nameless gifts and graces which render the American girl of today so attractive to all. It means to the hard-working mother immunity from toil, all of the necessaries of life, together with a large share of its luxuries, with a happy fireside for all on the farm.

Farm-Poultry

Established September, 1889

Published Monthly by Farm-Poultry Publishing Company at No. 39 Sudbury Street, Boston, Massachusetts.

FARM-POULTRY is devoted directly to all poultry interests and incidentally to the other interests of poultry keepers which are appropriate to a poultry journal. It aims to represent and serve in particular that part of the United States north and east of Philadelphia, and in general those interested in poultry everywhere who want a synopsis of poultry affairs from the point of view of an expert of high authority. Its editor, JOHN H. ROBINSON, has been familiar with poultry culture and poultry literature from early childhood, and for a quarter of a century has been engaged exclusively in this line of work He became a contributor to FARM-POULTRY over twenty years ago, and has edited it for sixteen years. He is the author of "Poultry-Craft," the most popular general work on poultry keeping; "Principles and Practice of Poultry Culture," a text-book for agricultural colleges; "Our Domestic Birds," an elementary text-book for public schools, and several books on special poultry subjects.

Subscriptions in the United States and possessions and Mexico, 25 cents a year; five years, $1.00 In Canada, 40 cents a year; three years, $1.00. In other countries, 50 cents a year.

Advertising Rates Display advertisements: 10 cents per agate line; $1.40 per inch. No advertisement of less than one inch accepted.

Classified Advertisements - 15 cents a line. No advertisement less than two lines. Discount on yearly paid in advance orders.

Topics of the Times

The Best Advertised Poultry Show

THE managers of the Palace Show this year adopted a policy of very liberal expenditure for advertising in poultry journals, going far beyond what has usually been done in this direction by our most progressive show managers.

The results of this campaign will be noted with interest. It is not only a question of securing entries, but the possible effects upon attendance, and particularly in stimulating the interest of poultrymen not in the immediate vicinity of New York, yet not so far away that distance prohibits a visit to the Metropolis, mean much both to the show and to those who go there to do business, are to be considered.

Both in quantity and in kind the advertising of the Palace Show has been such as to convey to those who see it the impression of push and progress, of branching out and going forward. We state this of the advertising as advertising, not considering here the actual extent of progress. This advertising constitutes a strong appeal to all poultrymen to whom the Palace Show is at all accessible to give it their patronage. It is a bid for new business.

Carrying Coals to Newcastle

AT THE Brockton Fair an exhibitor of some birds of a very popular breed had a placard on his coop announcing that his stock was "imported" from a breeder outside of the United States who has been for years a consistent winner at some of our best shows. To those seeing this card, who are more or less familiar with reports of inside doings in poultry culture in this section, such a notice was in a way amusing, for the visits of that breeder to this vicinity have long been about as regular as the seasons, and he is reputed to be the best customer of a number of good breeders in this locality who breed high class stock on a small scale.

The case is an example of what is common in the Standard poultry business, because of the long established custom of considering that the buyer of a bird, especially a bird for exhibition, buys with the bird the credit of breeding it. This policy and practice greatly increased sales and prices of stock of exhibition quality. But we believe that while it has had such effects, and perhaps would always have a marked tendency to develop business in and raise the prices of the best exhibition stock, it is, on the whole, an unsound policy, hurting the business in other ways more than it helps in the particulars mentioned.

Delayed Facts About White Diarrhea

AMONG other matters postponed by the dual accident to our editorial staff is a little symposium of the experiences and observations of a number of well known poultrymen in regard to the prevalence of this disease. The editor has stated the facts as he sees them. Now we will have the testimony of others. Except in about five or six cases where I happen to know what a breeder thinks about this matter, I do not know what the persons to whom we send a short list of questions will reply. I do not know their personal experience and observation. Now "we shall see what we shall see."

The Situation in Poultry Journalism

ABOUT ten years ago the writer was discussing the situation in poultry journalism with a friend slightly interested in poultry and intimately informed of earlier developments in a somewhat similar line. This man told him that about a generation ago conditions in that line were much as they have been in poultry culture in recent years, and that in journalism especially, similar conditions existed — the number of apparently successful publications out of all proportion to the actual business done in that line.

We have some four or five score poultry journals. Every agricultural paper gives some attention to poultry. Within the last five years or so daily and weekly newspapers have begun to give special attention to poultry. Yet with all this exploitation of poultry THE RATE of increase in poultry production does not increase, and it is THE RATE that gives the measure of progress.

The matter relating to poultry that is published each month in poultry, agricultural, and newspapers would make a volume as large as an unabridged dictionary. A person interested in poultry can wear himself out reading it, and then turn to any authoritative source of trade statistics and find that poultry production is at a standstill and that THE RATE of increase was very much greater, was normal, when there were comparatively few poultry papers, when agricultural papers were giving little attention to this subject, and general newspapers were giving none at all. A lot of people don't know that the poultry industry — the production of poultry — is at a standstill. They will not believe it, because they assume that progress must be in proportion to the forces exerted for progress, and they reason that if the industry grew and throve when practically the only general agencies for its promotion were the poultry shows and the poultry press, it must of necessity be making more progress when agricultural colleges and schools, experiment stations, and "government" experts in other capacities are giving information about poultry keeping, and newspapers — big and little — all over the land conducting "poultry departments," and when (last, but not least) poultry papers bigger and (some of them) had greater circulations than ever before.

Many people will assert upon such grounds as these that interest in poultry culture, and, consequently, poultry production, is steadily increasing. But the cold, hard fact, as revealed by statistics of receipts at the principal markets, is that poultry culture is at a standstill, and that this applies equally to market poultry culture and "fancy" poultry culture. Anyone disposed to do so can deny this, but no one can substantiate such assertions. No statistics that will "wash" will show a general increase in poultry production. Some people are cherishing the belief that the present depression in poultry matters affects "fanciers" only, while those engaged in producing market poultry, and catering to the practical side, are prosperous. That is only part of the case. Market poultrymen thrive as well as they do only because market poultry culture, on the whole is at a standstill. Those that are in it prosper because the number of new people is abnormally small. They will prosper more a little later, but the industry as a whole will suffer for lack of new recruits.

The thing most adverse to a normal development of poultry interests at the present time is the fact that our poultry journalism is a very bad misfit. If this were not so, the agricultural and general newspapers would never have had "a look in" in the matter of poultry advertising. They never did have until it was gratuitously conferred upon them through the stupidity of publishers of poultry papers who vainly imagined that the way to duplicate their early and vanished successes was to repeat the methods that gained them.

The writer can find as much, or more, than anyone else can to criticise in the poultry press, but he will go on record as saying that with all its faults, and in all its superfluity, the poultry press is incomparably superior to the poultry departments in any other class of periodicals.

Poultry papers *do* exploit poultry interests, BUT they also *do* — each according to its ability and the judgment of those in charge — try to give their readers information on every phase of poultry culture. Agricultural and general newspapers may claim to do this, but, judging by the results, the efficiency of the best of them is very low in comparison with that of the ordinary poultry paper.

Give the College Discriminating Support

"THE poultry press has more or less unconsciously fallen into the trail made by agricultural colleges. * * * So far as *Poultry Success* is concerned, hereafter we propose to let the experiment stations and colleges fight their own battles," says an editorial in *Poultry Success* for October.

As between following the station and college lead blindly and letting them "fight their own battles," the latter is as bad policy as the former. Poultry journalists should neither exaggerate the quality and authority of teachings from these sources, nor neglect their own duty in respect to public institutions related to the poultry industry.

These institutions should have, and at this time they especially need, the support of experienced, thoughtful, and progressive men in all lines of poultry culture who will take the trouble to familiarize themselves with the problems of the poultry departments at agricultural colleges and experiment stations. From a too ready acceptance of ideas, theories, etc., emanating from these institutions the public is just now showing an increasing disposition to ignore them, and indeed all kinds of "uplift" efforts in behalf of agricultural interests.

Such a reaction was inevitable, but instead of justifying neglect of these agencies it should provide a favorable opportunity for the most experienced and judicious practical men in all lines of agriculture to make their impression strongly upon the policies and development of these institutions. This class of poultrymen has been too little interested in them, and, in consequence, its influence has been slight, while the experiment station and college workers have been under strong pressure on one side from general scientific and educational ideas and methods not adapted to this line of work, and on the other from inexperienced, unsuccessful and unfortuate poultry keepers who looked to institutions of the advanced type to provide them such information, help, etc., as they thought they required. This latter kind of pressure is often very hard for those upon whom it bears to meet, becaues it comes — in many cases — from poultrymen who have been successful while their conditions suited the methods they had developed — poultrymen who are generally regarded as experts in their particular lines, and who are usually not at all disposed to consider any remedy for their troubles which involves any sort of admission that their practice has been at fault. These men look to the experiment station men, trained in various sciences, to find some way for them to avoid the consequences of their errors while persisting in those errors. They want something with which to dope their fowls, or their land, to offset the deterioration of stock and contamination of soil which their methods have produced. It is easier in the beginning for the college and station men to cater to this element, but it is short sighted policy, for the desired effect will not be obtained in many instances and the remedy will rarely prove of permanent value in common practice. So, in the end we think that it will be found that the harshest critics of our poultry educators and investigators will be those who are now cherishing poorly grounded expectations that "science" will in some way save them from the consequences of their faults in practice.

We consider it the part of intelligent journalism to oppose those educational movements which grow out of the readiness of educational institutions to yield to the kind of pressure that we are discussing. In our opinion the journals that commend all these efforts, or report them without comment, leaving their readers to assume —as most readers do — that they approve, make a serious mistake. A good many journalists have refrained from criticism of educational and investigational matters because they felt that their lack of acquaintance with matters in which an educator or investigator was supposed to be "an expert," made them incompetent to discuss or criticise his work and his views. In most of such cases competent criticism depends first of all upon a reasonably good knowledge of practical poultry culture and ability to take a common sense view of the scientist's work as seen from the practical standpoint. It is to the interest of all concerned that there should be less of the practice of approving and accepting everything bearing an educational label, and a freer expression of their own views of such matters by poultry editors generally. And it is much better for editors to take specific cases as they arise and discuss each upon its merits, than to refrain from criticism until the cumulative effects of repression cause them to cut loose and include everything in one general condemnation.

A REFORMER ASTRAY

FRIEND John H. Moore, who has been so deeply distressed by my (in his view) defaction from the straight and narrow path he had marked out in regard to the bleaching of white fowls, came into the office one day late in September to look at a Standard and see with his own eyes that the A. P. A. had nullified all its condemnations of bleaching. Incidentally Mr. Moore remarked that while he could say some severe things in reply to my latest statement on the bleaching question, he had concluded to let that rest, but would get after me in the next issue of the *Poultry Item* on the question of feeding fat into milk.

After reading Mr. Moore's article in the *Item*, I am constrained to say that I am puzzled to understand how a man whose morals are so very rigid in such a matter as bleaching fowls can resort to the tricks of the writer's trade as readily as he does in this article. The most plausible explanation seems to be that not being a professfonal writer he has never seriously considered the ethics of that trade, and has fallen into some of its fraudulent practices unawares.

Mr. Moore's most serious lapse is where he represents me making comments upon the quality and flavor of Massachusetts eggs, which I did not make at all. the remark which he construes as applying to Massachusetts eggs being one that plainly applied only to the eggs of one certain poultryman in Colorado. What I said of the quality of eggs in this vicinity was that I never saw a good egg that was a weak egg until I came to this section, except in the case of this Colorado poultryman who fed swill to his hens. I did not even say that these eggs from swill fed hens were not good.

Taking his own misinterpretation of my remark as a text, Mr. Moore indulges in a number of would-be sarcastic comments upon my alleged observations upon and attitude toward Massachusetts eggs. These comments do not indicate any expert knowledge of market eggs either here or elsewhere. As they assume that the weakness of large quantities of good fresh eggs free from bad flavors was a discovery of mine, I will say for the information of Mr. Moore that the point was called to my attention by a Boston dealer in eggs and poultry who was also the proprietor of a large dairy and poultry farm, who mentioned it as a matter of common knowledge to the trade.

In his concluding paragraph Mr. Moore says: "That Mr. Robinson and I possess practically no knowledge concerning the egg fat subject, we have pretty conclusively demonstrated. * * * Of course I speak for Mr. Robinson in this case without his authority, but anyone who has read, or may read, his editorial upon which my judgment is based, will at once recognize, I think, that I do him no injustice."

I will not quarrel with Mr. Moore on a generality of this kind, but it may be worth while to consider briefly two phases of his argument against the position that I took in regard to feeding fat into milk and into eggs. His long explanation of the scientific view of feeding fat into milk does not explain. It is merely a repetition of the usual ineffective statement of the matter, interspersed with slurring references to the writer of the matter that I quoted from *Hoard's Dairyman* and to myself. He refers to Mr. Abbott's cows as half starved, and thanks his stars that all the cows that he has ever had anything to do with have been properly fed. His reference to the condition of Mr. Abbott's cows is an exageration and, under the circumstances, I consider it a rather mean fling. Mr. Abbott apparently is like most farmers in sometimes being under the necessity of not giving the cows all that is desirable in feed and attention at the season when feed runs short and the work on the general farm is pressing. Mr. Moore ought to have explained to his readers that as superintendent of a farm for a wealthy man not dependent upon it for a living he is not bound by the stringent considerations of ways and means and of costs that hamper the ordinary working farmer.

Mr. Moore is also disturbed because I made a modest claim to some skill in handling cows. He humbly avers that he can make no such claim. In this I will say frankly that he does not seem to me to be sincere in this, for I not only have other reasons to suppose that he is a good cattle man, but the whole tone and tenor of his discussion of the subject contradicts his profession of little skill. That, however, does not affect the point at issue. It happens that I am able to quote no less an authority than W. D. Hoard in support of the view expressed by Mr. Abbott and myself. In December, 1895, Ex-Governor Hoard gave an address on "Modern Dairying" at a meeting of the Massachusetts State Board of Agriculture at Dalton. Here is a little extract from the discussion that followed the lecture:

"Mr. Whitaker. Is there a possibility of feeding cows with concentrated food to increase the fat?"

"Ex-Governor Hoard. Yes, provided the cow has not been brought up to her normal production; but if she has been brought up to her limit of fat per cent, it is a pretty hard thing, in my mind, to increase the per cent of her butter production. If she has not been brought up to it, she may be raised to it."

Although Mr. Hoard made this statement, he immediately followed it with a statement of the conventional academic theory that fat cannot be fed into milk. His inconsistency in this is immaterial. His theory depends upon taking the highest limit of fat production for each cow as her normal fat production. There is no particular objection to this if all the facts are clearly understood, but as it is usually stated, the theory is misleading. I don't know who is the active editor of *Hoard's Dairyman* now, but it seems to me that the paper ought to avail itself of what its head used to know.

Mr. Moore also takes exception to my views in regard to feeding corn to poultry. He says that he has tried feeding corn as I recommend and that the results were not satisfactory. All that it seems necessary to say about this is that if Mr. Moore were in commercial poultry keeping on his own account he could probably learn in a very short time to get results while feeding corn even more liberally than I am in the habit of advising.

* * *

Farmers' Bulletin No. 684, of the U. S. Department of Agriculture, by Alford R. Lee, is a discussion of the general subject of the production of pigeons for market, with a summary of replies from many pigeon raisers to a list of questions relating to management and profits.

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WINTER EGG PRODUCTION

MOST poultry keepers want to get eggs in the early winter when eggs are scarce and high in price. The difference between the fancier who says he does not care whether his hens lay them or not, and the poultry keeper who is greatly disappointed if they do not lay at that time, is not as great as at first thought it appears to be. Fanciers, as I find them, are not so indifferent to egg production as they sometimes profess to be. When their hens do lay well early in winter they are as pleased and as ready to boast of it as anyone. When they do not lay well at that time they console themselves with the thought that there are two strings to their bow, and that what they miss on early winter market eggs may be made up to them in the spring when they can sell the eggs for hatching. The poultryman whose eggs are not saleable for hatching purposes has not another period of especially high prices to which to look forward, hence his disappointment over failure to get early winter eggs is greater, for he knows that his loss, if made up, must be made up from the profits of the remainder of the year on sales at lower prices. His need of winter eggs being greater, his desire to get them is greater; he plans for them and works for them, making it a point to have his stock ready to lay by winter if possible.

The fancier may be indifferent about the laying of such fowls as he intends to show, but for the rest of his stock he would, as a rule, rather have it laying than not laying. There are few fanciers who are indifferent to the receipts from market eggs, and fewer still who try to discourage egg production in any considerable part of their flock, for fowls eat nearly as much when not laying as when laying, and it takes but a small egg yield to pay the feed bills.

We may say then that the difference in the attitude of practical poultrymen and fanciers in the matter of winter egg production is a difference in degree — not in kind — of interest. All want as many eggs in winter as they can get, but the intensity of desire, and of effort to get them, varies in a general way between these classes of poultrymen and also between individuals in either class. Perhaps the difference may be illustrated by a remark a friend of mine made to me one day at the New York show. We were talking of a man well known to poultrymen who has been a marked success as a money getter. Said he: "All men want money, but some will work harder to get it than others, and some will do things for money that others would not. Now the difference between you and I and Blank in regard to money is this: If a dollar were rolling around on the floor, you and I would each make a grab for it as it passed us; but Blank would follow that dollar on his hands and knees if necessary until he got it."

In the ordinary course of events Blank will probably reach the age at which men retire from active life—if they can—with many times as much wealth as either my friend or I. He will get more because he cares more for it and will work harder to get it. And this principle — or policy — (it is something of both) has a great deal more to do with the getting of eggs in winter than many would suppose. It has more to do with it than the kind of fowl, or the kind of food, or the kind of house. Within reasonable limitations it has as much to do with it as the period of hatching, the care and attention the chicks get while growing, and the treatment of the hens at the period when they are or should be laying. It is the intensity of the wish to have the hens laying in early winter, joined to a fair appreciation of the means of getting them ready to lay in winter, that makes some poultrymen work for this steadily and without intermission from season to season. I have never known anyone who was so uniformly successful in getting winter eggs that he or she might rightly be said to know how to "make hens lay," but I have known many poultry keepers who were much more successful than the average poultry keeper, and I think that those most successful in getting winter eggs divide quite naturally into two classes: Those who, in connection with more or less unnecessary "fussing" with the fowls, do the things essential to egg production; and those who do the essential things and nothing more. Poultry keepers of the first class are likely to get big egg yields and make large "per hen" profits; those of the second class to make more on their labor.

Essentials in Winter Egg Production

One of the best poultrymen I know, a man who grew up in the business and has been in it on his own account since before he was out of his 'teens, once said that the only "secret" he knew anything about in getting winter eggs was to have the pullets ready to lay at the beginning of winter, and then give them enough to eat. The kind of food—within the ordinary range of poultry foods—he considered of little importance. Another good poultryman who violated many of the common rules of "correct" poultry keeping, speaking only of the handling of hens in laying condition, said that in his opinion the all important points were to give the hens an abundance of food, and to give it regularly. It was said by some poultrymen who knew him that they knew of no poultryman who could be away from home so much and yet get good results—better than any of those who looked after their stock much more closely. Asked about this he replied that it was true that he took time off frequently in the middle of the day. He would not deny that at such times he "loafed," but he stated a fact which they had not observed, when he said that no one ever saw him leave or be away to the neglect of his stock, while various neighbors he mentioned would look carefully after their fowls for days or weeks at a time, and then for some reason or other there would be neglect, perhaps one feed omitted, perhaps the regular routine of feeding interrupted for one or several days, and this happening frequently, the hens did not get their full rations with the regularity essential to egg production.

Comparisons of the conditions, methods, and rations of poultry keepers and of the results they are getting, will clearly disprove any theory of breed, feed, or system of housing as superior to others, or as in itself essential to or assuring results, for in such comparisons we have to consider all kinds of results. We cannot consider only favorable results as advocates of special theories or ideas in any of these lines are wont to do. Comparisons such as I have just described would not so clearly prove the correctness of the ideas of abundant feeding and regularity as the essential things in egg production, for it is much easier in such cases to disprove a theory than to prove one, but such comparisons do generally indicate that good feeding—heavy feeding—is essential to continued large egg production, and the reports and records of those who get large egg yields in winter especially, generally indicate that the fowls get regular care.

Conditions of Greatest Egg Production

A fair comparison of results in different types of poultry houses will show, I think, the greatest winter egg production in the warmest houses, provided the ventilation of these houses is given proper attention. The same comparison would show very poor egg production, and often a great deal of sickness in flocks housed in this way. Investigation will generally show that in such cases the houses are not properly ventilated. The proper ventilation of warm, tight houses by the doors

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and windows is a very simple matter — if the poultry keeper can open and close them as temperature conditions require. In theory this is easy — nothing could be easier. In general practice I have found that very few of those who use warm, tight houses ventilate them properly. The common thing is to find houses still closed long after they should be open in the morning; then — if opened at all — left open long after they should be closed in the afternoon. The result of this is that the fowls become overheated and then chilled.

The proper way to ventilate such a house is to open the windows, or doors, or both, a little in the morning, wider toward noon, then close partially as the sun begins to get low, and altogether, or as nearly so as is customary, at dark. This for fair bright days. On stormy, cloudy, or windy days the opening should be adapted to conditions. Here is where the tight house becomes a troublesome proposition to those who have to be away from the place much of the day, or find it inconvenient to vary the time of opening and closing doors and windows. The day starts bright, and everything is opened, the attendant leaving not to return until toward night. A storm of some kind comes up, and the house becomes very uncomfortable for fowls that are tender to such conditions. Or, the opposite case occurs. The morning is chilly and threatening; the houses are left closed. It clears, and the sun comes out warm, and the houses are overheated. It is such conditions that baffle the poultryman who, with a warm house, hens fit to lay, and good food has to take chances on the ventilation that is right in the morning being right through the day.

If one wishes to get the largest egg yield possible; if he can look after the ventilation properly; and if he is indifferent about the usefulness of the hens after the first winter, I would say, by all means use a warm tight house. One is surer of big egg yields in it. But if there are likely to be occasions when the ventilation of such a house would not be given proper attention, or if it is desirable that the hens should come through the winter in good physical condition, use a more open house, and be satisfied with the prospect of a more moderate egg yield. Bear in mind that the kind of house does not control the egg yield. It is only a factor — a factor which varies in value according to other conditions. The warm house seems to offer the greatest possibilities of heavy winter egg production, and at the same time to involve the greatest risks of poor egg production and debilitated fowls. It is a forcing house, and the dangers as well as the advantages of forcing are in it.

The matter of yard or range also seems to have an important bearing on egg production. The largest egg yields are almost invariably made by hens that are quite closely confined. The common experience is that as between two equal lots of fowls, fed as nearly alike as possible, but one confined quite closely and the other given a large yard or free range, the hens that are most restrained will give the better egg yield, often a very much better yield. The most reasonable explanation of this seems to be that the closer confined hens utilize all their food for maintenance and egg production, while the others put much of it into energy expended in running about. It is also reasonable to suppose that hens at large are more often frightened or disturbed, and it is well known that such experiences are likely to have a marked and immediate effect on egg production. Dairymen know that to get the largest possible flow of milk from their cows they must be kept quiet and contented — not disturbed or frightened; but poultrymen do not so generally appreciate the effects of such things on the functions of the fowls.

Exercise is not always essential. By exercise here I mean compulsory exercise, compelling hens to exercise for much of the food they take. Undoubtedly many poultry keepers find that their hens do better when compelled to take exercise than when fed all they will eat, and taking almost no exorcise; but a great deal of good laying is by hens which take little exercise. If hens have sound digestion, and are not overfat to start with, they are likely to lay fully as well without much exercise during the early part of the winter, though as spring approaches they may get too fat or develop digestive troubles. We may say of cases where exercise is found necessary as of cases in which very careful attention to diet is found necessary, that these are abnormal. We may leave the matter of exercise in this way: Exercise is not always essential; when it does appear to be essential, provision for regular exercise should be made; it is always advisable if it is desired that the hens should go through the winter in good condition. If they are to be disposed of in the spring it does not make so much difference about exercise.

Generally the most convenient and satisfactory way of providing exercise is by littering floors and feeding the grain in this litter.

Winter Rations for Fowls.

Ration I.

Morning—Mash of corn meal, bran and beef scrap.

Noon—Wheat, barley, oats or millet.

Evening—Cracked corn.

Cabbage supplied practically all the time.

Grit and shell always before the fowls.

In this ration the morning and evening feeds are "full feeds;" that is, the fowls are given all they will eat. The noon feed is a light feed, say half as much as the evening feed of grain. The grains are fed scattered in litter spread over the floor of the house, so that the fowls have to scratch for them.

If now, one using the ingredients in this ration wished to feed the mash in the evening, he could simply transpose the morning and evening meals, making his system:

Ration II.

Morning—Cracked corn.

Noon—Wheat, barley, oats or millet.

Evening—Mash of corn meal, bran and beef scrap.

Cabbage, etc., as in Ration I.

But if he wanted to feed the mash at noon it might be necessary to make some changes. For instance, in either of the rations given above, millet or oats, both light feeds, and not eaten freely by fowls, can be used to good advantage at noon when, with full feeds morning and evening, only a light feed is needed. But if the mash is given at noon, and made a light feed, both the other feeds must be full feeds, and neither oats nor millet is suitable for regular use as a full feed. So the ration with a noon mash must be like this:

Ration III.

Morning—Wheat or barley.

Noon—Mash of corn meal, bran, and beef scraps.

Evening—Cracked corn.

Cabbage, etc., as in Ration I.

In this ration (a) the morning and evening feeds of grain should be full feeds, and the mash at noon a light feed or half feed; that is, about half what the fowls will eat freely; or (b) all three feeds should be rather scant feeds. I would advise beginners not to use the noon mash unless for special and urgent reasons, for I think it is more difficult to keep fowls' appetites steady when the mash is fed at noon.

Instead of feeding one grain at a time, several grains may be mixed together, and the mixture fed once or twice a day. Suppose we make this change in each of the rations given, designating our substitutes by the same numbers with the letter A added. Then we have:

Ration I.—A.

Morning—Mash as in Ration I.

Noon—Mixture of cracked corn and wheat, equal parts, (a half feed).

Evening — Cracked corn and wheat, equal parts, (a full feed).

Cabbage, etc., as in Ration I.

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Don't wait until the last minute and expect early chicks. Now is the time to secure the early hatches. Thousands of chicks already booked for early spring delivery. You must hurry your order to secure chicks from us; last season orders for 90,000 were on our books by January 10th, and at the present writing our orders are ahead of any season. Our seven Hall Mammoth Incubators will be again taxed to their limit producing nothing but

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AMERICAN BRED LEGHORNS

That's what our strain is — no mixture with foreign blood, because we believe the American Leghorn is the finest in the world when properly bred. Our strain is of good size, lay good sized white eggs, and lots of them, and to secure none but the best we are using trap nests extensively. October 2d a pen of 10 Leghorns at Storrs Agricultural Experiment Station Egg Laying Contest, that we own were second. having laid from Nov 1, 1914 to Oct 2, 1915, just 1915 eggs, and this is the kind of stock we are breeding in our Leghorns. This pen of birds was tested for white diarrhea and declared free from this dreaded disease; in fact, we have never known of a true case of white diarrhea to develop in any of our chicks. Three seasons ago, without trap nesting, we averaged for every pullet on our farm 172 and a fraction eggs during their first laying year, and we have customers who have beaten this record.

Place your orders this year with a reputable, reliable farm that is bending every effort to sell you the finest chicks that can be hatched. Our price are no more than you would pay for common, ordinary, haphazard bred Leghorns. We expect to be able to ship
20,000 chicks in February; 45,000 in March; 50 000 in April; 60,000 in May,
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Here are our prices until May 15th:—25 to 49 chicks 17c.; 50 to 99 chicks 16c.; 100 to 499 chicks 15c.; 500 to 999 chicks 14 1-2c.; 1000 to 1999 chicks 14c.; 2000 to 4999 chicks 13 1-2c.; 5000 or more chicks 13c.

We require 25% deposit with all orders, and the balance is due one week before shipment, or we will accept 10% deposit now, and 15% more January 1st. Don't delay. Get your orders in now. Whether for 25 chicks or 5,000 our service will be just the same. We pack our chicks in the finest packages on the market, and make hundreds of successful shipments to Canada, Michigan, Illinois, Indiana, Ohio, Kentucky, Virginia, Maryland, etc. We have shipped as far as Graf, Nebraska, and every chick was alive at destination. Orders from the South should be placed early to avoid the hot weather. We are now shipping lots of chicks to New Jersey and Pennsylvania, but we want more orders from these states, as we can make very prompt shipments to these points. We issue a 96-page illustrated catalog that is chock full of information to Leghorn breeders. A postal card will bring it.

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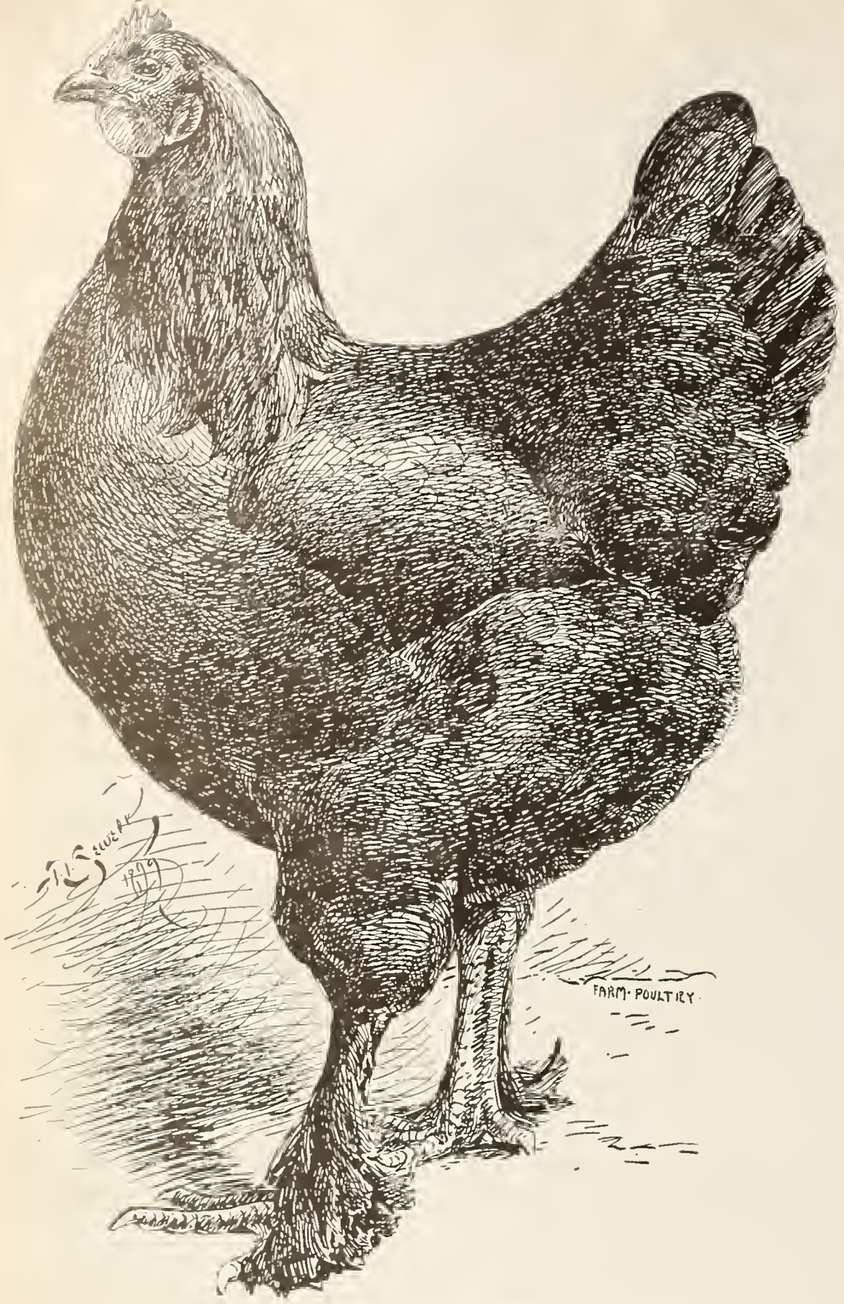

Black Langshan Hen

Ration II.—A.

Morning — Cracked corn and wheat, equal parts, (a full feed).

Noon—Cracked corn and wheat, equal parts, (a half feed).

Evening—Mash as in Ration II.

Cabbage, etc., as in Ration I.

Ration III.—A.

Morning — Cracked corn and wheat, equal parts.

Noon — Mash as in Ration III.

Evening — Cracked corn and wheat, equal parts.

Cabbage, etc., as in Ration I.

Making a Mash

No. 1—A Grain and Meat Mash

To make the mash used in the above ration, making it in small quantities and by a method calling for nothing special in the way of utensils, proceed as follows:

For as much mash as can be readily mixed in an ordinary three gallon pail, (preferably a pail of heavy tin, galvanized iron, or granite ware), take two quarts of corn meal in the pail; have a kettle of *boiling* water ready. Pour the water slowly over the meal in the pail, as you pour stirring with a long handled iron spoon. Pour on water and stir until you have a stiff, smooth mash.

Now take the bran—about three quarts at first—and stir it in, adding a little more if you find you can mix it. Perhaps it will take a quart more, and if the water was boiling and the meal swelled right, your mash should now be a stiff and rather brittle dough. Now put in the beef scraps or meat meal you wish to feed in the mash. The quantity you can use will depend on the character of the article, and also on the remainder of the ration and the constitution of the fowls; but, in general, fowls given all their meat food in the mash will take meat scraps or meal to the amount of about 8% or 10% of the dry bulk of the grain stuffs in the mash. That would be in this case, say, about a pint of scraps. In many cases twice as much scrap may be given to advantage, but the above proportions are *safe*.

Having put in the beef scrap, stir until it seems to be thoroughly mixed. The mash is now ready to feed.

No. 2—A Vegetabte Mash

We will call this a vegetable mash because the addition of cooked vegetables is all that makes it different from mash No. 1. Any waste vegetables or parings can go into it. Cook them in water until they are quite soft and will break up readily with the spoon when mixed with the other ingredients. For a pail full of mash take about three or four quarts of vegetables. When ready to mix the mash, have the meal in the pail as in mash No. 1, and pour the boiling water from the vegetables on it and stir as before. Then stir in the vegetables, bran, and meat scraps as before.

No. 3—A Clover or Alfalfa Mash

In this cut clover or clover meal — or alfalfa or alfalfa meal — is used instead of vegetables. Two or three quarts of the cut dry hay may be used in a pailful of mash, and when hay is used the quantity of bran should be reduced until the meal and bran are about equal. The cut hay may be stirred into the mixture at almost any stage. It may be cooked for a few minutes in the water in a pot and the corn meal stirred into the water, or mixed in after the meal or after the bran or with the bran.

A Dry Grain Ration

Ration IV.

Morning and Evening—Mixed grain as in Ration III.—A.

Noon—Cabbage.

Beef scrap, etc., in hoppers accessible at all times.

This ration could be varied by using one grain in the morning and another in the evening; or if fresh meat, raw or cooked, or cut bone was used, the noon feed might be alternately cabbage and meat, but the substantial meals of the day must be given morning and evening.

Dry Mash Rations

In these a mash made of the same grain ingredients in the same proportions as the mash in Rations I., II., and III., may be used. The meat may be mixed with the dry grains or fed separately. If mixed with them we could substitute the dry for the wet mash in each of these rations. For convenience and future reference we will repeat these rations here, making the substitution. We have then:

Ration V.

Morning — Dry mash of corn meal, bran, and beef scrap.

Noon—Wheat, barley, oats or millet.

Evening—Cracked corn.

Cabbage, grit, and shell always before the fowls.

Ration VI.

Morning—Cracked corn.

Noon—Wheat, barley, oats, or millet.

Evening—Dry mash of corn meal, bran and beef scraps.

Cabbage, etc., as in Ration V.

Ration VII.

Morning—Wheat or barley.

Noon—Mash of corn meal, bran, and beef scrap.

Evening—Cracked corn.

Cabbage, etc., as in Ration V.

Before bringing this article to a close I will give one more ration, including dry feed fed in a hopper:

Ration VIII.

Morning and Evening—Mixed grain, 1 part wheat, 1 part barley, 2 parts cracked corn.

Ground mixture, equal parts corn and oats, one-half bran added, always before the fowls in hoppers.

Cabbage, grit, and shell always accessible.

This last is a ration for one who has little time to give his poultry. It's simple aim is to insure that the fowls will have enough to eat and a fair variety in food.

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Johnson's
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For Coughs, Colds, Croup,
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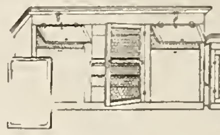

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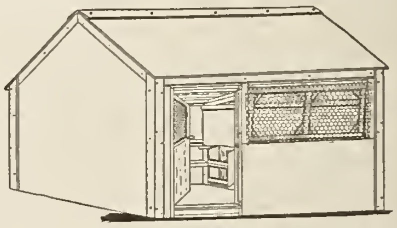

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My Single Comb White Leghorns are noted for size, stamina, and as layers of large white eggs. I have two thousand yearlings weighing 4 1-2 to 5 lbs. each that I will sell in any number desired at ninety cents each, Order at once. If you are not ready to take them now, make a deposit and I will ship when you are ready.
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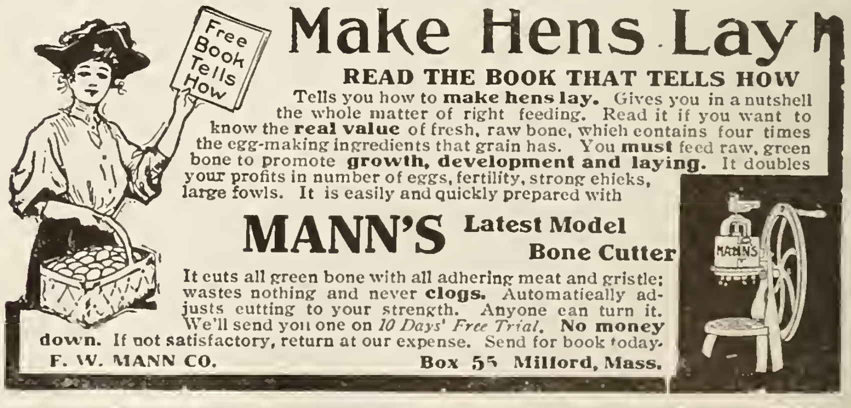

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Brockton Fair Poultry Show

Poultry was the only agricultural live stock at the Brockton Fair this year. Cattle, sheep and swine were kept away by the small outbreak of foot and mouth disease, and the horses shown were not the kind that interest farmers. At that, the horse show was the poorest the writer has ever seen here. Exhibits of poultry appeared to be about the usual numbers. As always, the quality was excellent in nearly all classes, and extra fine in many exhibits. Because of the accident to the editor and his son, interrupting our work at this show, we were not able to make notes for special comment upon exhibits, or to make our own list of awards. For the list as published below we are indebted to the *American Fancier:*

Awards.

Addresses given with the first mention of name. Towns not otherwise designated are in Massachusetts.

Light Brahmas—J. W. Shaw, Brockton, 1, 4 ck; 1, 3 hen; 3 ckl; 2, 3 pul. W. A. Hendrickson, Milton, 2, 5 ck; 2, 4, 5 hen; 5 ckl; 1, 5 pul. F. S. Barton, Norwood, 3 ck; 1, 2 ckl; 4 pul. Willow Dale Poultry Farm, East Weymouth, 1 pen.

Dark Brahmas—W. C. Lane, Peterboro, N. H., 1, 3 ck; 1, 4 hen; 1 ckl; 2, 3 pul. A. C. Lane, Peterboro, N. H., 2 ck; 2, 3 hen; 2, 3 ckl; 1, 4 pul.

Black Cochins—All to W. S. Williams, Whitman.

Black Langshans—J. F. Robinson, South Weymouth, 1 ck; 2, 3 hen; 1, 2 pul; 1, 2 pen. T. D. Smith, Boston, 2 ck; 1 hen; 4 ckl; 4 pul. A. N. Nay, Antrim, N. H., 3 ckl; 5 hen. Chickatawbut Farm, Canton, 2 ckl; 3 pul.

White Langshans—J. F. Robinson, 1, 2 hen; 1, 2, 3 ckl.

Barred Plymouth Rocks—W. Plummer & Son, Riverside, R. I., 1 ck. Lambert's Poultry Farm, Apponaug, R. I., 2 ck; 4 ckl P. B. Baker, Waltham, 3 ck. R. Rankin, Sanford, Me., 4 ck. E. C. Cobb, Whitman, 1 hen. A. J. Sprinthall, Pawtucket, R I., 2 hen. W. W. Carpenter, East Providence, R. I., 3 hen; 5 ckl; 3 pul; 2 pen. Bearhrook Poultry Farm, Wakefield, 5 hen; 2 pul. F. E. Sherman, Hyannis, 1 ckl; 1 pul. W. E. Tower, Providence, R. I., 2 ckl; 4 pul; 1 pen.

White Plymouth Rocks—Mirimichi Poultry Farm, Foxboro, 1, 2 ck; 3 hen; 1 ckl; 1, 4 pen. S. Knowles, Easton, 3 ck. W. F. Hayward, Westboro, 4 ck; 1 hen; 3 ckl; 4 pul. Wakefield Poultry Farm, Wakefield, 2, 4 hen; 2 ckl; 1 pul; 2 pen. W. W. Greenough, Wakefield, 2, 3 pul.

Buff Plymouth Rocks—A J. Keniston, Bangor, Me., 1 ck; 2 pen. E. F. Gay, Norwood, 2 ck; 1 hen. Sunnyside Poultry Farm, Bristol, Vt., 3 ck; 2 hen; 2 ckl; 1, 2 pul. W. Spooner, North Easton, 1 ckl. E. A. Mitchell, West Bridgewater, 1 pen.

Partridge Plymouth Rocks—Glenwood Farm, W. Mansfield, 1, 2 ck; 2, 4 hen; 2, 3 ckl; 1, 2, 4 pul; 1 pen. J. F Southwick, Blackstone, 3 ck; 4 ckl; 3 pen. F. O. Shepardson, Mansfield, 4, 5 ck; 1, 3 hen; 1 ckl; 5 pul; 2 pen. R. Foskett, Charlton, 5 ckl; 3 pul.

Columbian Plymouth Rocks—A. J. Keniston, 1 ck, A. Lingard, Everett, 2 ck; 1, 2, 3 hen; 2, 4 ckl. L. A. Moore, Chelsea, 1 ckl; 1, 4, 5 pul. Foley Bros., Everett, 2, 3 pul.

Silver Penciled Plymouth Rocks—A. J. Keniston, 1 ck; 2 hen; 2 pul. F. W. Rogers, Brockton, 1 hen; 2 ckl; 1 pul. Mrs. L. A. Hathaway, Abington, 1 ckl.

Silver Wyandottes—F. S. Hubbard, Meriden, Ct. 1, 3 ck; 1, 2 hen; 1, 2 pul; 1 pen. M. Adelman, Norwood, 2, 4 ck; 3, 4 hen; 5 ckl. Terry L. Ladd, Brockton, 5 ck; 5 hen; 3 ckl; 5 pul. Foley Bros., 2 ckl; 3 pul.

Golden Wyandottes—O. P. Chase, Andover, 1, 2 ck; 2, 3 hen; 1, 2 ckl; 1, 3 pul. G. May, Andover, 3 ck; 1, 4 hen; 4 ckl; 4, 5 pul. J. G. Mills, Natick, 3 ckl; 2 pul.

White Wyandottes—G. H. Pollard, Greenbush, 1 ck; 2, 4 hen; 2 ckl. Mirimichi Poultry Farm, 2, 4 ck; 1, 3 hen; 3, 5 ckl; 4 pul; 1 pen. W. W. Tirrell, North Abington, 3, 5 ck. A T. Aikins, West Barnstable, 1 ckl; 2 pen. White Wyandotte Poultry Yards, 1, 3 pul. Mrs. M. P. Sturtevant, Reading, 2 pul.

Buff Wyandottes—J. S. Dunn, Gardner, 1 ck. C. O. Smith, Woonsocket, R. I., 2 ck; 5 hen. Dr. N. W. Sanborn, Holden, 3 ck; 1 hen; 4 ckl; 4, 5 pul; 1, 4, 5 pen. M. C. Condit, No. Stoughton, 4 ck; 3 hen; 5 ckl; 3 pen. F. H. Willis, Brockton, 2, 4 hen; 1, 4, 5 pen. F. Rockwood, So. Brooklyn, N. H., 1, 2, 3 ckl; 1, 2, 3 pul.

Partridge Wyandottes—A. G. Thompson, Franklin, N. H., 1, 2 ck; 3 hen; 1, 3 ckl; 4 pul. Buck Bros., Oxford, 3 ck; 1, 5 hen; 2, 4 ckl; 1, 2, 3 pul. B. E. Donnell, Norwood, 4 ck; 5 ckl; 5 pul. J. A. Silva, Brockton, 2 hen.

Silver Penciled Wyandottes—A. L. Hathaway, Abington, 1, 2 ck; 5 hen; 3, 5 ckl; 1, 4 pul. F. W. Rogers, 3 ck; 1, 4 hen; 4 ckl; 2, 5 pul. Mrs. E. J. Robinson, Lakeville, 5 ck; 2, 3 hen. T. W. Harwood, Pembroke, N. H., 1, 2 ckl; 3 pul.

Columbian Wyandottes—Mrs. E. J. Robinson, 1 ck; 1 hen. E. H. Simmons, Whitman, 1, 2 ckl; 5 pul. C. H. Denison, Mystic, Conn., 3 ckl; 3, 4 pul. J. A. Brackett, Milton, 1, 2 pul.

Buff Wyandottes—C. W. Smith, Fall River, 1, 2 ck; 1, 2, 4 hen; 1, 2, 3 ckl; 1, 2, 3 pul. A. R. Robinson, Fall River, 3 ck; 3 hen.

S. C. R. I. Reds—W. B. Parker, Stoneham, 1 ck. E. F. Benson, Whitman, 2 ck; 5 hen; 5 ckl; 2, 5 pul. E. W. Sturtevant, Whitman, 3 ck. White Birch Poultry Farm, Bridgewater, 4 ck; 1 ckl; 1 pul; 1, 2 pen. G. W. Little, So. Braintree, 5 ck; 3 hen. E. O. Cornforth, Slatersville, R. I., 2 hen. G. H. Chandler, Brockton, 3 hen. H. E. Watts, Monument Beach, 4 hen; 2 ckl; 3, 4 pul; 4, 5 pen. Lambert's Poultry Farm, 3 ckl.

R. C. R. I. Reds—Buck Bros, 1 ck; 1 ckl. A. E. Alden, West Bridgewater, 2, 3, 4 ck; 2, 3 hen; 2, 3 ckl; 1, 2 pul; 1 pen. C. P. Hamon, Franklin, N. H., 5 ck; 1 hen.

Dominiques—A. J. Keniston, 1 ck; 1 hen; 2 ckl; 1 pul. C. R. Risley, East Hartford, Conn., 2 ck; 3 ckl. C. A. Spooner, 1 ckl; 2 pul.

Black Javas—A. G. Howe, Shrewsbury, 1 ck. Morton J. Gregory, Niverville, N. Y., 2 ck.

S. C. White Orpingtons—Beaver View Poultry Farm, Springvale, Me, 1, 4 ck; 5 hen; 3 ckl. R. Rankin, 2, 3 ck; 1 hen. A. J. Keniston, 5 ck; 3 hen. J. H. Hillsgrove, Wakefield, 2 hen. A. L. Dyer, Brockton, 5 hen; 4 ckl; 2, 4 pul. R. E. Simmons, Pittsfield, 1, 2 ckl; 1, 5 pul. F. A. Brown, Brockton, 1 pen.

S C. Black Orpingtons—Davis Poultry Farm, Hartford, Conn., 1 ck. R. E Foss, So. Berwick, Me., 2 ck; 1 hen; 1 pen. Beaver Brook P. Farm, 2 ckl; 1 pul.

S. C. Buff Orpingtons—W. E. Hooker, South Hadley, 1, 2 ck; 3 hen; 5 pul. T. H. K. Powell, E. Brookfield, 3 ck; 1, 4 hen; 4 pul; 1 pen. Sunset P. Yards, 4, 5 ck; 2 hen; 1, 2 pul; 4 pen. G. E. Bessom, Mansfield, 1, 2, 3, 4, 5 ckl; 2 pen.

Blue Orpingtons—C. P. Sheehy, East Wareham, 1, 2, 4, 5 ck; 2, 3, 4 hen. Mrs. J. Stevens, Brookville, 3 ck; 5 hen; 2 ckl; 4, 5 pul. G. H. Simmons, 1 hen; 1 ckl; 1, 2 pul.

Crested White Orpingtons—All to H. W. Tinkham, Brockton.

White Dorkings—All to A. J. Keniston.

White Faverolles—All to L C. Martin, Attleboro.

Salmon Faverolles—L. F. Taylor, Providence, R. I., 1 ck; 2, 3 hen; 1 pul. F. J. Robinson, Nashua, N. H, 1 hen; 1, 2 ckl; 2, 3 pul.

S. C. Brown Leghorns—E. K. Gerry, Sanford, Me., 1, 2 ck; 2, 5 hen. L. F. Taylor, Providence, R. I., 3 ckl; 1 3 hen; 1 ckl. N. B. Hartford, Bournedale, 4 hen; 2 ckl; 1 pul.

R. C. Brown Leghorns—Maplewood P Yards, Milton, N. H, 1 ck; 2, 3 hen; 1 ckl; 2, 3 pul. H. H. Doomon, No. Dana, 1 hen; 3 ckl. J. L. Woodbury, Cornish, Me., 1 pul.

S. C. White Leghorns—Philip Spaulding, Falmouth, 1, 2 hen. J. McDougall, Pawtucket, R. I., 1 ckl; 1 pul. L. M. Clarke, Milton, 2, 3 ckl. Everlay Farm, Methuen, 2, 3, 4 pul. Henry Johnson, Brockton, 1 pen.

R. C. White Leghorns—All to L. H. Perry, Clay, N. Y.

Blue Leghorns—All to Dr. W. S. Novak, Rutland, Vt.

Buff Leghorns—All to C. I. Davis, Waterville, Me.

S. C. Black Leghorns—Dr. Navok, 1, 2 ck; 2, 3, 4 hen; 2, 4 ckl; 3, 4, 5 pul. R. G. McAndrews, Dorchester, 1 hen; 1, 3 ckl 1, 2 pul.

R. C. Black Leghorns—All to Dr. Novak.

S. C. Anconas—L. C. Strang, East Weymouth, 1 ck; 1, hen; 2 ckl; 4 pul. H. T. Washburn, Taunton, 2 3 ck; 2, 3 hen. M. C. Perry, Cornish, Me., 1 ckl; 3 pul. C. A. Spooner, 3 ckl; 1 pul.

R. C. Anconas—L C. Strang, 1 ck; 1 hen; 1 pul C. H. Price, Everett, 2 ck; 4 hen; 2, 3, 5 ckl; 2, 3, 5 pul C. L. Sturgis, 3 ck; 2, 3 hen; 1 ckl; 4 pul.

Buttercups—C. E. McCurdy, Whitman, 1 ck; 1 hen; 1 ckl. Cedar Crest P. Farm, 2 hen; 1 pul; 1 pen.

Silver Campines—W. J. Stokes, West Roxbury, 1, 2 ck; 1, 3 hen; 1, 2 ckl. Cedar Crest Farm, 3 ck; 2 hen. C. L Hayward, 4 hen. W. S. Williams, 3, 4 ckl; 1, 2 pul.

Golden Campines—C. P. Jones, Providence, R. I., 1, 2, 3 ck; 1, 2, 3 hen; 1, 3 ckl; 1, 3, 4 pul. C. R. Risley, 2 ckl. C. L Hayward, 2 pul.

S. C. Black Minorcas—E. M. Zimmerman, So. Manchester, Conn., 1 hen; 2 ckl. G. C. Carlson, Worcester, 1 ckl.

R. C. Black Minorcas—C. R. Risley, 1 hen; 1 pul. Levi White, Brockton, 1 pen.

R. C. White Minorcas—C. R. Risley, 1 ckl; 1 pul.

S. C. Buff Minorcas—Marble Benoit, Montello, 1, 2 hen.

Blue Andalusians—All to E. W. Houdlette, E. Wareham.

Lakenvelders—Wildwood Farms, Sayville, L. I., N. Y., 1, 2, 3 ck; 1, 2, 3 hen; 1, 3, 4 ckl; 2, 3, 4 pul. J W. Shonfield, East Lynn, 2 ckl; 1 pul.

Polish—Witowski & Gerry, Brockton, 1 ck; 1 hen. G. A. Jenkins, No. Weymouth, 2 ck; 2 hen. John MacKenzie, Milton, 1, 2 pul.

Silver Spangled Hamburgs—M. Adelman Norwood, 1, 2 ck; 2, 3, 4 hen; 3, 4 pul; 1 pen. Chickatawbut Farm, 1 hen; 1, 2 ckl; 1, 2 pul.

Silver Penciled, Golden Penciled and White Hamburgs—All to J. W. Shonfield.

Houdans—All to Bridbemere P. Yards, Medfield.

Frizzles—All to E. A Ostiguz, Brockton.

Dark Cornish—E. E. Cummings, Antrim, N. H., 1, 2 ck; 2, 3 ckl; 3, 4 pul; 1 pen. F. M. McLaughlin, Millville 3 ck; 4 hen; 4 ckl; 2 pul. Prof. J. M. Priske, Hudson, N. H., 1, 2, 5 hen; 1 ckl; 1 pul.

White Cornish—A. J. Keniston, 1 ck; 2 hen; 1 ckl; 2 pul. J. Trenoweth, Concord, N. H., 2, 3, 4 ck; 1, 3, 4 hen; 1, 3 pul.

Red and Speckled Sussex—All to Quimby & Brown, Ipswich.

Pekin Ducks—White Birch Poultry Farm, 1, 2, 3 old drake; 3, 4, 5 old duck; 3, 4, 5 young drake; 3, 4, 5 young duck; 1, 3 pen. H. B. Ellis, West Hanover, 4 old drake; 1, 2 old duck; 1 young drake; 2 young duck. W. E. Gibson, West Bridgewater, 2 young drake; 1 young duck.

Rouen Ducks—White Brich Poultry Farm, 1, 2, 3 old drake; 1, 2, 4 old duck; 1, 2, 3 young drake; 1, 2, 3 young duck. J. F. Southwick, 4 old drake; 3 old duck.

Indian Runner Ducks—L. H. Perry, Clay, N. Y., 1, 2 old drake; 2, 3 old duck; 1, 3 young drake; 1, 4 young duck; 1 pen. H. B. Ellis, 4 old drake; 1, 4 old duck; 2, 4 young drake; 2, 3 young duck; 2 pen.

Colored Muscovy Ducks—D. O. Tuttle, Londonderry, N. H, 1 old drake; 1 old duck; 1 young drake; 2 young duck. W. E. Therrien, Acushnet, 2 old drake; 1, 3 young duck.

White Muscovy Ducks—A. J. Keniston, 1 old drake; 1 old duck. W. E. Therrien, 2 old drake.

Toulouse Geese—D. O. Tuttle, 1, 2 old gander; 1, 2 old goose; 1 young goose. F. S. Keith, 1 young gander.

Embden Geese—D. P. Shove, 1 old gander. D. O. Tuttle, 2 old gander; 2 young gander; 1 young goose. A. J. Keniston, 3 old gander; 3 old goose. C. W. Richardson, 4 old gander; 1, 2 old goose; 1 young gander; 2, 3 young goose.

Brown China Geese—David Little, Newburyport, 1 old gander; 4 old gander. W. M. Beals, Avon, 2, 3 old gander; 1, 2, 5 old goose. J. F. Southwick, 4 old gander; 3 old goose.

White China Geese—A. J. Keniston, 1 old gander; 2 old goose. J. F. Southwick, 2 old gander; 1 old goose.

Wild Canadian Geese—David Little, 1 old gander; 2 old goose; 4 young gander; 3 young goose. G. W. Thomas, 2, 3, 4 old gander; 1, 3, 4 old goose; 1, 2, 3 young gander; 1, 2, 4 young goose; 1, 2, 3 pen.

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Is just the thing for sitters, as it does not harm eggs or chicks. Keep your hens free from lice and they will thrive and be profitable. 100 oz. $1.00; 48 oz. 50 cts., 15 oz. 25 cts. Large sample of Powder or Head-lice Ointment 10 cts. *"Secrets of Success with Poultry"* by D. J. Lambert for 2c stamp.

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You run no risks, take no chances, because it is guaranteed to satisfy you or your money refunded. After averaging eight eggs a month from 60 hens, Mr. Clarence Heitel of Newark, N. J. gave Pratts Poultry Regulator, and soon got eggs by dozens.

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Pratts Poultry Disinfectant and Liquid Lice Killer: $1.00 a gallon, 35c a quart.

Refuse substitutes. Insist on Pratts.

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T-O-P FARM NOTES

THIS farm has a clayey soil. It is on a side hill, sloping at the upper side sharply and at the lower side gently toward the east by a little northeast.

Now I was "raised" in northwestern Illinois where there are several kinds of clay — all stickey. When I started poultry keeping in Colorado I learned "by dear experience" that clay of the adobe type did not make a good poultry house floor. I have visited poultrymen in many sections where they had to contend with the disadvantages of clay, and I have rejoiced that I lived and kept poultry in that part of New England where there was never enough clay in the soil to "discommode" my favorite feather-legged Asiatics.

So when it became my business to inspect T-O-P Farm with an eye to all its deficiencies as well as to its advantages, observing that the soil was conspicuously *clayey*, I put that down as one count against easy poultry culture on this particular piece of land. Also, I listened sympathetically when Dr. Pierron and Mr. Cameron lamented that the farm lacked that desirable feature — a sand bank. And I agreed with them in a measure; but I didn't say all that was in my mind, for I was noticing some things that I had not suspected about *clay*.

Having no sand on the premises or within easy hauling distance, the proprietors of T-O-P Farm have been doing "the next best thing" by putting under cover every fall a liberal supply of dry and sifted surface soil of a distinctly clayey character. This is used on the floors of the laying houses and the brooder and colony houses.

I began to note results with an ingrained prejudice against *clay* in poultry houses. That was four months ago and nobody at the farm has heard anything from me to indicate that I regarded it as other than a misfortune that they had no sand and had to use clay. But I was noticing that in the brooder houses where we had finely sifted clay and no litter on the floor, the clay appeared to be a remarkably good material for the purpose and to have absorbent properties not commonly attributed by poultrymen to *clay*, and I began to think that as some years ago we had to modify our views about "well drained" soil being always, and under all circumstances, the best adapted to poultry, so now we must modify our views about *clay* being inherently obnoxious to the welfare of fowls.

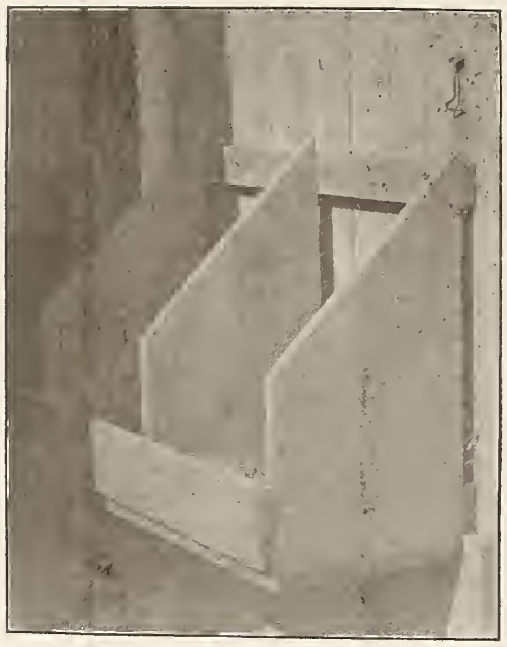
Probably I would not have gone beyond "beginning to think" about this had it not been that looking up something else in an old report of the "Transactions of the Agricultural Societies of the State of Massachusetts," my attention was attracted to an address of J. E. Teschemacher, at the fair of the Plymouth County Agricultural Society in 1851, on "The Mechanical Properties of Soils and the Consolidation and Protection of Manures," in which the statement is made that *clay* ranks next to *charcoal* in absorption properties, and that soil with as low as four per cent of clay in it has more than ordinary capacity for absorption.

Mr. Teschemacher's address was devoted to something else, so his statement about clay was merely incidental, but he made the statement that *four per cent of clay* in a soil gave it absorption properties sufficient for ordinary purposes in the conservation of manures, and that was enough to indicate to me that this was a matter worth looking into, and to strengthen an impression that had been growing in my mind as I studied conditions here, that perhaps the clay that has been regarded as a passable substitute for sand on the brooder floors and in the colony houses is as good to use on the droppings boards as the land plaster that is bought for that purpose.

According to Mr. Teschemacher, clay is second only to charcoal in absorptive properties. His purpose in the address referred to was to persuade farmers to use soils with charcoal constituents in compounding manures. Muck and peat soils have these properties and so, to a marked degree, have the peat "scratching litters" that are now advertised and sold for use in poultry houses, and which many consider the best material for that purpose.

⁂

Is there any relation between the kind of nest used for layers and the prevalence of broodiness? I would not say positively that there is, but observations following a change in the kind of nests used in the laying houses here suggest forcibly that dark nests and trap nests increase the tendency to broodiness and that open nests tend to reduce broodiness. The two long houses first built on this plant had dark nests with passages for the entrance of the hens next the wall and the back of the nest, or of a section of four nests, a door which had to be opened and closed when eggs were collected. In the early days of the plant when the stock was comparatively small this did not seem burdensome. But after the second long laying house was stocked up it began to be evident that the cost of collecting eggs from these nests was excessive, so for the third long house,—started this spring and completed during the summer—it was desired to have some other nest arrangement, and as it was desired to have some other nest arrangement, and as it was necessary to finish a few pens in this house early for the Barred Rock hens reserved for breeders next season, we decided to try the type of open skeleton nest that I have used for the last fourteen or fifteen years for my small flock.



J. H. Robinson's Skeleton Nest

As I used them I found these nests entirely satisfactory, but here there were some differences in conditions under which I thought that they might not work as well. Thus, I had always used a single row of nests hung near enough to the floor for the heaviest Brahma hens to get up to them easily. Here we had to have two rows of nests at each side of the pen, one easily reached from the floor, the other above it. We planned at first to make an alighting board for the hens to go to the upper nests, but we found as soon as the hens began to use the nests that this was not necessary, for the largest Rock hens went to the upper nests as readily as to the lower.

Within a few weeks after the hens began to use these nests the men noticed that the amount of broodiness in this lot was much less than had been usual, and that among the hens using the close, dark nests. Even when hens went broody they were apt to quit soon of their own accord, for as they sat on the nests—usually with no eggs under them—for the eggs are collected three times a day, and a hen going to these nests to lay will rarely get in a nest occupied by a broody — they could always see the other hens feeding, and so they had little inducement to remain on the nest, but much to join the hens on the floor.

When I mentioned this to Professor James E. Rice in conversation recently, and suggested that perhaps the use of trap nests in laying competitions was responsible for so much broodiness in the Leghorns at these contests, he said he thought it likely that the lessened broodiness noted at T-O-P Farm could be accounted for by more persistent laying as a result of some changes in feeding that had been made. As the point had come up incidentally in the course of the discussion of another subject, we did not discuss it further at that time, and there was no opportunity to return to it. Mr. Rice's point does not apply in this case because no change was made in the feeding of this lot of hens for two months after they began to use these nests, and more than a month after the men had noted the falling off in broodiness in this lot. In fact, no change had been made up to that time in the feeding of any of the laying stock that could or did particularly influence egg production.

In this connection I ought to say also that egg production at this farm prior to

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STANDARD OF PERFECTION

The second (corrected) edition of the 1915 Standard is now in press. It is expected that deliveries will begin this month. It is not likely that there will be much delay. Order early and get your copy as soon as possible.

This Standard Will Be In Effect Eight Years

The book you buy now will be your authority and guide upon matters it covers until 1923. Everyone who breeds or exhibits Standard poultry needs it, and everyone interested in good poultry ought to have it.

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FARM-POULTRY PUBLISHING CO.,
39 SUDBURY STREET, - - BOSTON, MASS.

my connection with it was good enough to make it improbable that there will be any remarkable improvement through such changes in feeding practice as I have recommended. I expect and hope that in due time we will have here unusually good production from a large stock of fowls. At the same time, everyone acquainted with my views on the subject knows that I have never considered an extraordinary egg yield the most important factor in making poultry pay. The most important things are uniform quality in stock of suitable type, economy in feeding, and efficiency in labor. The larger the plant the more necessary it becomes to look to these points carefully.

While I am not disposed to dogmatize about the matter, I think that there is something in the type of nest as an encourager or discourager of broodiness, and shall make further observations in regard to it.

The first night of the show will be New Year's Eve, and we know that both the exhibitors and the public will take advantage of this social season in the City of New York. The new departments which were opened three years ago will be continued, and we hope to make the exhibitors lounging and writing room more comfortable and convenient for them, and to do everything in our power to make their stay with us as pleasing and homelike as possible. Owing to the greater perfection of the system in conducting the details of the show, I trust to be upon the floor a great deal of the time to meet and talk with the friends of Madison Square Garden.

The Bureau of Information has been found to be of great service, and its further and more universal use is urged.

The awards will be posted immediately after they are made, as was the case last year, and we are perfecting a system of shipping the birds home, which we believe will meet with the approval of the exhibitors, and in which we ask their hearty support. The details of this arrangement will be found in the Premium List.

Bringing Them Up in the Way They Should Go

Madison Square Garden

America's Leading Show.—Twenty-Seventh Annual Exhibition

Editor FARM-POULTRY:—Historic Madison Square Garden will open its doors for the twenty-seventh time to the poultry and pigeon fanciers of the world on December 31, 1915, and the exhibition will conclude on Wednesday evening, January 5, 1916.

When the above dates were posted at our last exhibition as a notice to all intending exhibitors for this year's show they were received with enthusiasm, and I find that there is a universal feeling of satisfaction that we have been able to return to our old dates. All winnings this year can be advertised early, and the public will know in ample time for the egg trade in whose yards those winnings may be found.

At Madison Square Garden "A win wins most," for not only are premiums and specials large, but the prestige connected with any award cannot be duplicated and is the greatest asset that any breeder can have. Sales at the Garden have always been heavy and at long prices, and even last year when the show was held at a comparatively late date the reports of the transfer of birds for good coin of the Realm were very numerous. This year when so many New York business men are in on the top of a boom it is expected that there will be more business done than ever before.

We had the largest attendance in our history last year which, we believe, is accounted for both from increased interest on the part of the public and wider publicity, and we shall make every endeavor at our forthcoming exhibition to widely distribute the particulars in regard to the show and will, therefore, expect to attract even a larger number of visitors than heretofore. The fact that the show begins on Friday and ends on Wednesday is most convenient for exhibitors, and the public seems greatly to appreciate the opportunity of coming to the show on Sunday.

From advices already received I am confident that our entries will be extremely large, and I am hoping, as usual, to see a large number of new faces in the ranks. We will try to initiate these new comers with warm hospitality and painstaking service. Please remember that the secretary is at all times desirous of meeting and talking with every exhibitor upon the floor and that the latch string of his office is always out.

Tnose who are really desirous of receiving a Premium List will please send their names to me as soon as possible, as we are endeavoring to perfect a mew address list and to do the work ourselves so that it may be properly done.

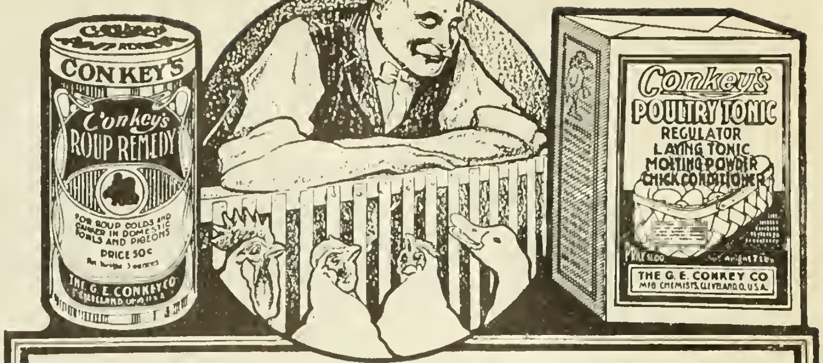
A number of poultry and pigeon specialty clubs are to meet with us. New specials are to be offered, and with an educational exhibit—which we believe has never been surpassed—we feel we can entertain and interest all.

Yours very truly,
CHAS. D. CLEVELAND,
Eatontown, N. J. Sec'y and Sup't.
Oct. 5, 1915.

Poultry Show Dates

New England States

Nov. 11—13. Pawtucket, R. I. E. J. Gibbons, S'y.
Nov. 17—19. Holyoke, Mass. Frank C. Buck, S'y.
Nov. 17—20. Wakefield, R. I. Geo. E. Harvey, S'y.
Nov. 24—27. Taunton, Mass. C. L. Wheeler, Sec'y.
Nov. 30—Dec. 2. Bellows Falls, Vt. G. S. Buxton, Sec'y.
Nov. 30—Dec. 3. New Haven, Conn. H. A. Hunt, Sec'y, West Haven, Conn.
Dec. 1—13. Abington, Mass. Edward C. Cushing, Sec'y.
Dec. 1—4. Providence, R. I. W. I. Brown, Sec'y.
Dec. 2—4. Chelsea, Mass. H. C. Green, Sec'y, Everett, Mass.
Dec. 8—11. Woonsocket, R. I. A. J. Richards, S'y.
Dec. 8—11. Portsmouth, N. H. C. S. Long, Sec'y.
Dec. 14—15. Northampton, Mass. J. H. Pierce, S'y.
Dec. 14—17. Derry, N. H. E. A. Cross, Sec'y.
Dec. 16—18. Westerly, R. I. Roger Dunham, Sec'y.
Dec. 23—25. Berwick, Me. A. C. Brooks, Sec'y.
Dec. 28—31. Manchester, N. H. O. W. Carey, S'y.
Dec. 30—Jan. 1. Meriden, Conn. R. D. Marsden, Sec'y.
Jan. 4—6. Bridgeport, Conn. John K. Slack, Jr., Sec'y.



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Conkey's Poultry Worm Remedy
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Jan. 18—19. Amherst, Mass. W. H. Abbott, Sec'y.
Jan. 19—22. Lawrence, Mass. F. J. Barneman, S'y.
Jan. 25—27. Lenox, Mass. Steve C. Burghardt, S'y, Interlaken, Mass.
Jan. 26—29. Worcester, Mass. Chas. H. Wood, S'y.

North Middle States

Nov. 16—20. Brooklyn, N. Y. R. H. Wilcox, Sec'y.
Nov. 16—20. Paterson, N. J. Dr. G. Johnston, S'y.
Nov. 22—27. Erie, Pa. J. F. Boyer, Sec'y.
Nov. 22—27. Buffalo, N. Y. Wm. O. Jennings, S'y.
Nov. 23—27.. Red Bank, N. J. John Yeomans, S'y.
Dec. 6—10. Palace Show, New York City. L. D. Howell, Sec'y, Mineola, N. Y.
Dec. 7—9. Hammonton, N. J. M. K. Boyer, Sec'y.
Dec. 7—10. Johnsonburg, Pa. H. L. Roussey, S'y.
Dec. 14—17. Newton, N. J. J. S. Roe, Sec'y.
Dec. 31—Jan. 5. Madison Square Garden, New York City Chas. D. Cleveland, Sec'y, Eatontown, N. J.
Jan. 11—14. Ogdensburg, N. Y. Chas. W. Loomis, Sec'y.
Jan. 17—21. Corry, Pa. Guy M. Simmous, Sec'y.
Jan. 19—22. Media, Pa. J. W. Keller, Sec'y.
Jan. 27—Feb. 3. Rochester, N. Y. J. W. Chapman, Sec'y.

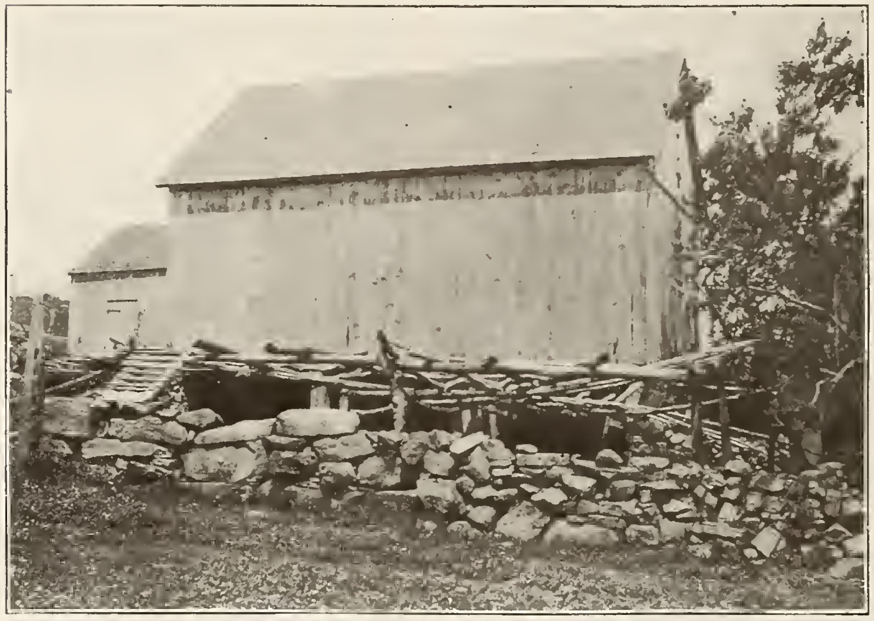
Southern States

Nov. 2—6. Chattanooga, Tenn. Fred C. Rose, S'y.
Nov. 3—8. Shreveport, La. Louis N. Brueggerhoff, Sec'y.
Nov. 8—12. Augusta, Ga. H. W. Cameron, Sec'y.
Nov. 23—30. Louisville, Ky. A. W. Haller, Sec'y.
Dec. 13—18. Lake Charles, La. B. F. Hendricks, Sec'y.
Jan. 10—15. Charleston, W. Va. Julien C. Byrd, Sec'y.
Jan. 11—14. Norfolk, Va. L. C. Page, Sec'y.
Jan. 25—28. Warrenton, Va. M. J. O'Connell, S'y.

Central West States

Nov. 29—Dec. 4. Kansas City, Mo. Wm. Hunter, Sec'y.
Nov. 30—Dec. 4. Goshen, Ind. W. H. Schadt, S'y.
Nov. 30—Dec. 4. Atlantic, Iowa. Max R. Ross, S'y.
Dec. 1—5. Terre Haute, Ind. Harry Forbes, Sec'y.
Dec. 7—10. Joplin, Mo. Fred Crosby, Sec'y.
Dec. 7—10. Two Harbors, Mich. Fred Thias, S'y.
Dec. 7—11. Norwalk, Ohio. Chas. O. Jockson, S'y.
Dec. 13—17. Mt. Carmel, Ill. L. S. Hocbran, Sec'y.
Dec. 13—18. Indianapolis, Ind. G. G. Olt, Sec'y.
Dec. 20—25. Plainville, Ind. O. M. Heldt, Sec'y.
Dec. 27—Jan. 1. Caldwell, Kans. L. A Perry, S'y.
Jan. 3—7. Madison, Wis. J. G. Halpin, Sec'y.
Jan. 10—14. Indianapolis, Ind. C. H. Milhous, S'y.
Jan. 10—15. Kansas City, Mo. E. L. Noyes, Sec'y.
Jan. 13—19. Chicago, Ill. D. E. Hale. Sec'y.
Jan. 17—22. Decaturm, Ill. H. B. Lowe, Sec'y.
Jan. 17—22. Denver, Colo. W. S. Schunan, Mgr.
Jan. 24—29. Eaton, Ohio. Ora Overbolser, Sec'y
Jan. 24—30. Elkhart, Ind. W. E. Bruning, Sec'y.

is used for exhibition purposes, and the reader is informed that exhibition birds are usually hatched in January and February, so that they will be ready for the fall fairs. This, as every poultryman knows, applies only to a small part of the birds exhibited, and these, as a rule, not of the highest class. The chapter on mating presents some curious inconsistencies. It is said that in the Cochin, size comes from the female, and that in the Brahma the males contribute as much to size as do the females. These few faults are not isolated, but are examples of what may be found in almost every page in many parts of the book. Another thing that is open to criticism is the too free use in the glossary, without credit, of definitions from the Standard of Perfection.



Turkey Roost in Shelter of Barn on Farm of Horace Miner, Westerly, R. I.

"Poultry Culture, Sanitation and Hygiene."

"POULTRY CULTURE, SANITATION AND HYGIENE." By B. F. Kaupp, D. V. M., Professor of Poultry Science at the North Carolina Agricultural College, West Raleigh. 12 mo. volume of 418 pages with 197 illustrations. Cloth, $2 net. W. B. Saunders Company, 1915. Philadelphia and London.

The author in his foreword tells us that this book was prepared "to meet an ever growing demand for a more accurate knowledge of the underlying fundamental principles which mean success in the poultry work." Naturally then we expect to find it distinguished for accuracy and terse and comprehensive statements of essential principles. This reviewer would not say that it had not these qualities, but he will freely confess that he is able to discover them only in the few chapters of the book dealing with matters especially within the field of the veterinary.

Considering the work as we see it, without reference to the author's specification of its purpose, it appears to be the result of an effort to develop a general treatise on poultry culture around a nucleus of papers by the author upon topics in which he is a specialist. We do not think that it is possible to make a satisfactory text book in this way, and it seems to us a matter for regret that the author should adopt this plan rather than undertake a thorough treatise upon poultry anatomy and physiology There has long been a demand for such a work, and whoever produces a book that meets this demand reasonably well will make a real contribution to our permanent poultry literature.

However opinions may differ as to the general merit of the work, there can hardly be two opinions among those at all well versed in poultry culture as to the very numerous instances in which the author is amazingly inaccurate on ordinary matters. He places the origin of the Plymouth Rock at 1850. The birds known at that time as Plymouth Rocks disappeared in a few years and there was no connection at all between them and the modern Plymouth Rocks. His statements of the origins of breeds and varieties are generally inaccurate or defective. Three months is given as the time required to fit a bird for exhibition in a coop such as

To Show Secretaries

Editor FARM-POULTRY:—Concerning the "King Trophies and Certificates of Award" which we present each year to poultry associations and fairs holding exhibitions without charge or conditions of any kind. The Trophies are placques made of genuine bronze 2¼ inches in diameter, in plush covered, silk lined cases. The certificates of award (one for each trophy) are 9½ x 12½ inches in size; hand engrossed in colors on French hand-made paper.

A set of three trophy placques with certificates will be presented to any association, if acceptable, to be awarded to the best exhibit of birds in the three leading classes; viz.: American, Mediterranean, and English.

Each set of placques and certificates costs us a neat little sum, but we feel that we shall derive some benefit from the plan in one way or another, and we know that the trophies will help poultry associations in the laudable work of creating a desire among poultry raisers in general to further their interest in, and knowledge of, the science of practical poultry husbandry.

Cuts and suggestive layouts for notice of the trophies in your premium lists, etc., will be furnished *gratis*, and we will be pleased to co-operate with you in any way that will prove mutually advantageous.

May I have the pleasure of serving you?

Cordially,
CHAS. W. HAKES, Pres.
King Remedy Company, 15-17-19 Elm St.,
Rochester, N. Y., U. S. A.

◆

Poultry Judges at the Palace Show

George W. Weed,— Black Orpingtons, Black Leghorns, Black Wyandottes. C. H. Shalor,—Barred Rocks. Chas. Nixon, — White Rocks. I. W. Mole,— Buff Rocks, Partridge Rocks. Paul W. Doll, —Silver Penciled Wyandottes and Silver Penciled Rocks. F. W. Otte,— Columbian Rocks. W. B. Atherton,— White Wyandottes. J. D. Jaquins,— Buff Wyandottes, Singles. J. E. Willmarth,— Buff Wyandotte Pens. W. E. Sams n, —Silver Wyandottes. H. P. Schwah,— Partridge Wyandottes, White, Blue, Ermine and Jubilee Orpingtons. D. Lincoln Orr,— Columbian Wyandottes and

1500 Hen Hatched, Farm Raised

Barred Plymouth Rocks

Single Comb Brown Leghorns

The home of Ivanhoe, (pronounced the best Barred Plymouth Rock cockerel of the season), also of Worcester XIV, the best S. C. Brown Leghorn cockerel ever produced. Our customers stay with us. We can please you in winners, breeders of fine utility stock.

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The fourth year he carried over 550 layers. The market eggs were all sold through a commission house. The yearlings brought 75¢ each. A few hatching eggs were sold. The total receipts were $2,798.07. The total expenditure for the year was $1,228.18. The net profit on investment and labor $1,569.89.

Everone interested in making money out of poultry should ask for our March circular, and catalogue of Buffalo Equipment.

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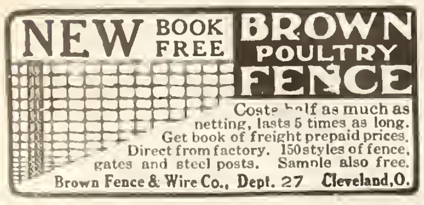

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Was the **FIRST POULTRY SHOW IN AMERICA**. In order to make information about this show available to all interested in poultry, John H. Robinson has made a complete account of it from the fragmentary reports published at the time, and illustrated it with reproductions of cuts made at that time. Price 10 cents, postpaid.

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It does not pay to hold back the small ad. until trade begins. Many readers are considering now where they will buy a few months later.

PLYMOUTH ROCKS.

SOME nice yearling Buff Rock hens, $1.25 each. Noyes, L. Box 273, New London, Conn. t f

PEDIGREED Barred Rock cockerels $3 to $10. Fairfields Farms, Short Falls, N. H. 12

PILGRIM Barred Rocks "have the lay bred in." Cockerels from 200-250 egg hens. Pilgrim Poultry Pens, Orr's Island, Maine. 12

RHODE ISLAND REDS.

STOWE FARM S. C. Reds have large size, rich even color, great laying qualities and are not over frequent sitters. Show birds a specialty. F. D. E. Stowe, Brattleboro, Vermont. 12

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S. C. R. I. RED HENS. $1 each. Will exchange for Cavies or Belgian Hares. Will sell 25th acre farm stock, etc. N. A. Yetman, Bridgewater, Vt. 11

WYANDOTTES.

BOSTON WINNING Buff Wyandottes. Can I help you to winners or breeders? Sewell Cir. Dr. N. W. Sanborn, 324 South Road, Holden, Mass.

LEGHORNS.

YOUNG-FERRIS STRAINS Single Comb White Leghorn hens, cocks, and cockerels must be sold to make room for growing stock. Several hundred hens (this year's breeders and fine birds) $1.00 each; $80 per 100. Cocks and cockerels, $1.00 to $5 00 each. Willow Brook Egg Farm, West Berne, N. Y. t f

$1 EACH—S. C. W. LEGHORNS, pullets and yearlings, cocks and cockerels. Will ship anywhere. Send for booklet. Woodworth Farm, Wilton, Conn. t f

S. C. WHITE Leghorns; bred 14 years for egg production; 200 yearling hens, $1 each. Two year olds, 75c. Barron cockerels and pullets bred from imported pen. Special prices for quick buyers. Let us supply you. Christy Farm, Cortland, N. Y. 11

MINORCAS.

BLACK Minorca eggs, $3 per sitting; cockerels. R. Story, 187 Arlington Av., Brooklyn, N. Y. 12-2

LANGSHANS.

FIRST COCK, hen, cockerel, pullet, pen; best display, Silver cup for best 10 single birds won by Robinson's Langshans at N. Y. State Fair. 79 entries in class. J. F. Robinson, Main Street, South Weymouth, Mass. tf

SUSSEX.

RED SUSSEX—Old and young stock for sale from best stock in this country; good clear color, $2 and $3 each. Joseph Mason, Newton Upper Falls, Mass. 11

TWO OR MORE VARIETIES.

WHITE LEGHORN cockerels, $1.25 each; 5 for $5. Also R. I. Red pullets now laying. George W. Adams, Norwich, Conn. 11

DUCKS.

WHITE INDIAN RUNNER DUCKS. P. A. Davis, R 2, Newton, N. H. 11

PRINTING.

ANYTHING from small tags to large catalogs. First class work. Reasonable prices. The Everett Print, 53 Cornhill, Boston, Mass.

WANTED.

POULTRY manager, married, desires situation commercial plant preferred; 10 years practical experience; 4 years in last position; thoroughly reliable; finest references. Box 236, New Rochelle, N.Y.

COMPETENT, sober poultryman desires a change January or earlier. Private place or charge of moderate size plant preferred. A. R., care Farm-Poultry, Boston, Mass. 11

$1500 Yearly in Backyard

Raising Poultry

New 100-page book—just off press—by recognized poultry authority—gives the very information you need. Hundreds of women pay for homes raising poultry in back yard—healthful, interesting

This book tells how to avoid beginner's costly mistakes—gives experience successful breeders—how they started, grew and made money.

Describes America's greatest money-saving line of guaranteed incubators, brooders. Book in large demand—write immediately.

Free Book Tells How

Model Incubator Co., Henry St., Buffalo, N.Y
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Light Brahmas, Singles. Harvey C. Wood — Light Brahma Pens. I. W. Bean,— R. C. R. I. Reds. J. W. Simons,—S. C. R. I. Reds. George W. Tracey,— R. I. Whites, White Minorcas, Javas, Red Caps. J. Harry Wolsieffer,—Buff Orpingtons. Frank L. Platt,—Campines, Sussex. F. W. Aubry,—Faverolles. F. C. Sites,—Langshans, Cochins. H. V. Tormohlen, — Brown Leghorns, S. D. Leghorns. J. C. Punderford,—White Leghorns. H. J. Fisk,— Buff Leghorns. I. G. Bean,—Anconas. Daniel Shove,—Houdans. W. G. Minieh, — Minorcas, Polish, Hamburgs, Andalusians. Chas. T. Cornman, —Dark Cornish. John W. Ward,—White Cornish. W. M. Anderson,—Buttercups. Jas. Glasgow,— Games. John Brett,—Waterfowl.

Bantam Judges

George Young,— Clean Leg Bantams.
Chas. M. Smith,—Feather Leg Bantams.
James Glasgow,—Games.

FARMERS' POULTRY COURSE IN MISSOURI

A ONE week course in poultry raising is an annual event at the Missouri University. The big Farmers' Convention takes place January 3—7. At this meeting of Missouri farmers each department in the College of Agriculture offers a complete course of study. Farmers' Week at Missouri is of national reputation.

In 1914 over 3,000 farmers enrolled. This year the prospects point to a greater attendance. No pains are spared to give the farmer what he desires. The poultryman also comes in for his share of attention, as the following program shows:

Tuesday, January 4th

A New Type of Poultry House for the Farm, H. L. Kempster.
Intestinal Parasites of Poultry and Their Treatment, A. J. Durant.
Incubation and Brooding of Young Chicks, E. H. Rucker.
The Seasonal Distribution and Cost of Egg Production, H. L. Kempster.

Wednesday, January 5th

The Result of a Year's Experience with Roup, A. J. Durant.
The External Parasites of Poultry, T. J. Talbot.
Farm Egg Laying Contests, H. L. Kempster.
The Possibilities of Improved Poultry Keeping Through the Boys' and Girls Poultry Club, R. H. Emberson.

Thursday, January 6th

Feeding for Egg Production A. G. Phillips.
The Farmer and Selling Eggs on a Graded Basis, W. A. Lippincott.
The Judging of Fowls, E. C. Branch.
Farm Poultry Management, A. G. Phillips.

Friday, January 7th

The Value of Egg Laying Contests, T. E. Quisenberry.
The Ups and Downs of Egg Marketing, R. C. Lawry.
The Opportunities for Specialty and Farm Poultry, W. A. Lippincott.
Modern Methods of Poultry Culture, Illustrated by Motion Pictures.

Each day demonstrations will be given in the following:

Judging Fowls.
Judging and Candling Eggs.
Killing and Dressing Poultry.
Caponizing.
Treatment of Fowls for Lice.

American Single Comb Brown Leghorn Club

The old time favorites, the Brown Leghorns, are coming back strong. Popular interest in this variety is greatly on the increase. National Club Meeting will be held in connection with the Palace Show, New York, December 7—11. H. V. Tormohlen, judge. Report of recent election.

Three years ago, the American Single Comb Brown Leghorn National Club Meeting at Chicago drew the largest entry of this variety ever gotten together at any show, and the fifth largest class in the show. For four or five years interest in the old time egg machine has been on the increase, and this once popular variety is again one of the prime favorites. The American Single Comb Brown Leghorn Club has taken on new life and is doing much to advance the variety to the first place again. The report of the annual election just held is as follows:

President—H. V. Tormohlen, Portland, Ind. Northern Vice-President — A. N. McCall, Minneapolis, Minn. Southern Vice-President — Dr. H. T. Boyd, Sweetwater, Tenn. Eastern Vice-President — Fred H. Cook, Beaver, Pa. Western Vice-President — J. C. Williams, Fullerton, Cal. Central Vice-President—E. W. Stahler, West Park, Ohio. Sec'y-Treas. —J. H. Henderson, Knoxville, Tenn.

National Columbian Wyandotte Club Election

Show Secretaries Take Note

In the largest vote in the history of the club the following officers were elected for 1916: President — Ralph Woodward, Grafton, Mass. Vice-Presidents — Richard Harwood, Littleton, Mass.; George M. Wilkinson, Blairsville, Pa.; Geo. A. Kersten, Minneapolis, Minn.; J. A. Leland, Springfield, Ill.; Arnold Hagens, Kennydale, Wash. Sec'y-Treas., D. G. Keyler, Trenton Junction, N. J.

The club is financially in good standing, and is planning to create by advertising, big meets, etc., to arouse more interest in Columbian Wyandottes.

The National Columbian Wyandotte Club will offer its gold, silver, and bronze championship medals and a set of five special club ribbons at all forthcoming poultry shows in the United States and Canada that will give notice of the offer in their premium list and will mail a copy of same to the secretary-treasurer of the club, who will in return send list of members they may send premium lists.

D. G. Keyler, Sec'y-treas.,
Trenton Junction, N. J.

A Comprehensive View of the Outlook in Poultry Business

Through the courtesy of the Cyphers Incubator Co. we have been favored with a copy of a circular letter which they recently sent to their agents throughout the country summarizing the views of a large number of business houses that have handled this company's goods for from five to fifteen years. The opinion strongly prevails that the outlook is very much better than a year ago, not only for immediate results, but for the coming spring. We quote that part of the letter relating especially to poultry interests:

"The old world war is now more than a year old and the unsettled conditions that existed last fall have passed away, the result being that the banks are now full of loanable funds, and the people in general are not worrying as they were a year ago.

"Again this year our country is favored with bumper crops — the largest crops of wheat, oats, corn, barley, rye, kaffir corn, etc., ever produced by us. It is a larger crop even than was harvested in this fortunate country a year ago. Last fall and winter our farming class received unexpectedly high prices for a bumper crop, and this experience is to be repeated, in large part, this fall and winter.

"Howevea, on account of the continued wet weather two or three of the farm crops suffered more or less, so that it is estimated that about 25% of the wheat crop, for example, is unfit for flour making, and therefore can be sold to best advantage in the form of poultry food. The prices of other grains are considerably less than they were a year ago. At this time wheat that is well suited for poultry food can be bought at 90c. per bushel, and kaffir corn and milo maize are selling in Kansas City at $1 to $1.05 per 100 pounds. These prices are decidedly lower than those which prevailed a year ago. They appear to make it certain that poultry foods this coming season are to cost much less than they did last winter and spring.

"On account of the high prices of wheat, corn, oats, etc., a year ago, also last spring — with the talk of $2 wheat — tens of thousands of persons were deterred from entering the poultry business, and still other thousands who were in the business sold off part or all of their flocks on account of the high cost of poultry foods. The inevitable result was a shortage the past spring in young stock raised. Probably this shortage amounts to fully one-third. In other words, we doubt if more than 65% of a crop of chickens and ducks was raised during last spring. Now that we are to have low cost poultry foods for the balance of 1915 and the first half of 1916 it would seem certain that a great many people will take up poultry keeping, or extend their present operations in order to make up for lost time.

"The market prices of eggs have been good all summer. Here lately they have improved to a surprising extent. At this time fresh eggs by the case are bringing 32 and 33 cents at wholesale in Buffalo, which is four and five cents per dozen more than could be obtained a year ago. It would appear, therefore, that high prices are going to prevail this winter and next spring for market eggs. The same conditions undoubtedly will apply to poultry for table use. The shortage last spring in the crop raised should mean this, and we believe it will."

ONE PRICE TO ALL

FARM-POULTRY
ONE YEAR 25 CENTS
FIVE YEARS TO ONE ADDRESS $1.00
ONE YEAR TO FIVE ADDRESSES 1.00
IN CANADA, 40 CENTS A YEAR; THREE YEARS, $1.00
IN OTHER COUNTRIES, 50 CENTS A YEAR

We have never cut prices on the "everybody's doing it" principle, but since as a result of that practice, a general selling price of monthly poultry papers has been made by our competitors, we adopt that as our regular price, matching the zig-zag cut that discriminates against your best patrons with a horizontal cut that makes the price the same to all.

A Popular Subscription Campaign

Although the above announcement of price and terms was first made only a month ago, the returns already show that poultry keepers approve the policy of one price to all, that many subscribers prefer to take out five year subscriptions, and that many are disposed to do missionary work among their friends and neighbors by getting a club of five or more subscribers. For the assistance of those forming such clubs we give here

A Few Facts About Farm-Poultry

FARM-POULTRY is published for three classes of readers:
(a) For all people interested in poultry in New England and adjacent territory.
(b) For those everywhere who want to be kept posted on developments in poultry culture in this area, which is the most advanced poultry section in the world.
(c) For students of poultry matters who want competent criticism of all matters of general interest in poultry culture.

FARM-POULTRY is pre-eminently the organ of stable and permanent poultry interests. It is one of the oldest poultry papers in the United States, and has a longer record of uninterrupted prestige and influence than any other poultry paper. One of its long time advertisers said of it recently: "*Farm-Poultry is an institution.*"

FARM-POULTRY is the only paper in New England devoted wholly to poultry interests and to all interests of poultry keepers.

FARM-POULTRY is "*a poultryman's paper for poultry keepers.*" Its editor was a skilled poultryman and breeder before he engaged in poultry journalism, has always kept poultry enough to keep his hand in, and is at the present time actively engaged on one of the largest commercial plants in New England.

FARM-POULTRY is the only poultry paper published that is edited as a journal giving technical information should be, suppressing matter of no importance or value and keeping its readers advised of the merits of every matter worth their attention.

Let Us Get Together!

We welcome support from everywhere, but we want most of all the united support of poultry interests in our home territory. We need this, and poultry interests here need to co-operate to secure from their home paper the best that it can do for them.

Make P. O. Orders and Checks Payable to

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In your neighborhood. If you wish samples for distribution to prospective club members let us know how many and we will send them to you.

Over $11,000.00 In Premiums Offered By

THE GREATER BUFFALO SHOW

Thanksgiving Week—Nov. 22 to 27, 1915

For selling show birds, November, December and January are the three best months in the year. Come to Buffalo Thanksgiving Week and meet Eastern, Western and Canadian buyers. Advertise your winnings in the December and January Poultry Journals. Remember Fanciers, the big November Shows will boost your sales, and figure on Buffalo for the business getting show of the season.

If you have never exhibited at Buffalo, just ask any big breeder about this show for sales.

ALL PRIZES PAID THE LAST DAY OF THE SHOW
WRITE TODAY FOR FIRST EDITION OF PREMIUM LIST.
WILLIAM O. JENNINGS, Secretary. BUFFALO, N. Y.

A DOUBLE ACCIDENT

As a result of injuries received in assisting the driver of a runaway horse that had crashed through the fence at the street and came to a halt in one of their poultry yards, on the morning of October 7th, John H. Robinson and his son, Howard B. Robinson, who has charge at the office of the advertising in Farm-Poultry, and assists in editorial work, have been laid up at home since that date.

J. H. Robinson's right hand and arm were severely strained and the elbow broken. H. B. Robinson had a bruise on the left knee that caused a bad case of water on the knee. At this writing, November 1st, the editor expects to be able to get to the office in a day or two and have the paper made up this week, but it will be some weeks longer before he has any use of his right arm, or the full effects of the injury can be determined, H. B. Robinson will be confined to the house for about a month longer. It is not anticipated that the injury to his knee will inconvenience him after the swelling has disappeared.

We have been making a paper under difficulties this month and have had to substitute seasonable articles which were published some years ago for some special matter we had planned to print in this issue. However, as these reprints will be new to a large proportion of our readers, and as they are of good value, and the other matter will come on soon, we do not think our readers' interests will suffer because of the substitution.

THE A. P. A. AS AUTHORITY ON MATING

In the *American Poultry World* for September the editor, Grant M. Curtis, takes the ground that the American Poultry Association should now get out *six or more* separate breed standards, a feature of which would be "authoritative instructions" how to mate to produce fowls as described in the Standard of Perfection.

Mr. Curtis' argument entirely overlooks the fact that fixing arbitrary, artificial character requirements for exhibition poultry, and giving people *rules* for producing the same, are very different things.

By adopting a certain "Standard" description for each variety of poultry, the American Poultry Association can decree that birds of that description shall be the exhibition type, or types, of their variety. But it is not practical, nor has the association ever undertaken to consider anything about exhibition specimens except as they appear when on exhibition. If an exhibitor wants to show a single combed White Wyandotte as a White Plymouth Rock, he can do so, or if he has a specimen that is a cross or grade, but will pass as a Standard specimen of a Standard variety, he can show it as such.

It is commonly held that the judge must consider it only on appearance when making the awards — that neither he nor anyone else can "go behind the returns." The question is not how it was bred, but whether it conforms to the Standard description of the variety in which it is entered, and if so, what merit it has as compared with other specimens with which it competes.

The A. P. A. has authority to fix arbitrary, artificial standards of requirements for exhibition poultry because it is universally recognized that in this "game" of exhibiting, there must be certain agreed upon rules as to variety and breed descriptions. The A. P. A. "by taking thought" and a vote can decide that a certain combination of characters of certain described quality shall be considered its ideal,— the style it approves. But no amount of "taking thought," or of voting will enable any organization to make rules for producing its "Standard" styles of poultry that will work out to the satisfaction of those who might undertake to apply them, for the results of breeding for complicated combinations of characters depend largely upon the breeding qualities of individuals, which are extremely variable. It is because of this variableness, and because of the varied possibilities of grandparents and great grandparents exercising a marked influence upon the offspring, that we so often have different results from similar matings and like birds produced from quite dissimilar matings; and that while every breeder is assured that each of his matings will produce Standard birds of its variety, no experienced breeder will ever count positively on the results of any mating he may make until the young are sufficiently developed to show their quality. It is quite a common occurrence for the favorite mating of an experienced breeder to prove disappointing, while one from which he expected only ordinary results gives him remarkable quality. The experienced breeder gets his results year after year with considerable certainty because he knows his stock and its breeding tendencies, and because recognizing the uncertainties of particular matings he makes enough matings to make it reasonably sure that he will get the desired quality in a large part of his stock. Experience counts for much in breeding, but the element of chance is always present.

When the American Poultry Association decrees that the standard for a variety shall be so-and-so, only birds supposed to meet the requirements are sent to the shows. But if the A. P. A. announces that such-and-such is or shall be the method of producing birds of a certain variety, it will not have the effect of bringing it about that all such matings produce the intended style of Standard birds.

As long as it confines its authority to describing exhibition birds, the A. P. A. is safe even in its errors and inconsistencies; but as soon as it undertakes to give regulation matings for producing them, it will open the door for all kinds of trouble in Standard making and revision. In fact, it will begin to undermine its own work in that line.

The class of breeders who would rely upon rules for the production of Standard poultry furnished by the organization making the Standard is the same class that in everything relating to poultry looks always for some single, simple rule that they can apply as they would a rule in arithmetic and get the results sought with certainty and uniformity. These are the people that want "natural standards," meaning by "natural standards" those by which matings of exhibition birds will produce regularly exhibition specimens of both sexes.

What attitude will these people take about authoritative rules for such purpose? They will simply adhere to their original position that the Standard description should be a sufficient guide in mating, and that if it is not, the Standard should be changed. As I stated a short time ago, in a comment on this idea of producing Standard specimens from single "Standard" matings, it can easily be done — if you make your standard to suit, but the resulting standard will be a standard for those who can neither appreciate high quality nor produce it.

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Incubators, Brooders,
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FIFTH ANNUAL EXHIBITION
SOUTH COUNTY POULTRY AND PET STOCK ASS'N
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A grand list of Specials—no strings tied to them. Most liberal regular Premiums. Only three entries to fill class. Ballou, Lambert, Shove, Judges. Write for Premium List.
ROGER DUNHAM, Sec'y.

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Write for prices and send 2c. stamp for "Dog Culture." "Poultry Culture," 10c.

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WHERE A WIN WINS MOST
ENTRIES CLOSE DECEMBER 15, 1915
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